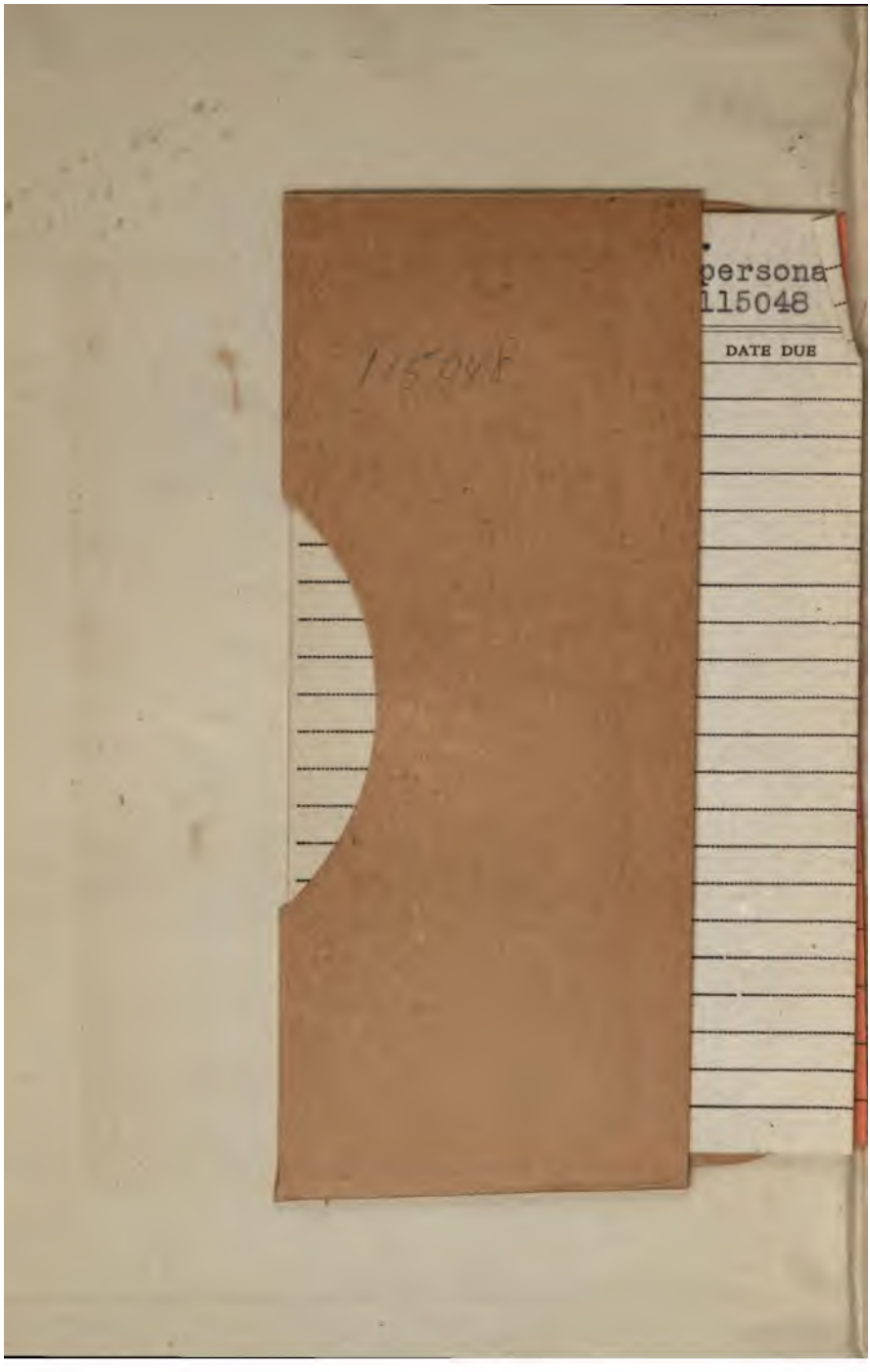
SHORT TALKS ON PERSONAL AND COMMUNITY HEALTH

LOUIS LEHRFELD, M.D.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ON

PERSONAL AND COMMUNITY HEALTH

BY

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INTRODUCTION

SINCE 1908 the Department of Public Health and Charities has issued health bulletins in the form of short talks addressed to the public through the press on subjects of vital interest dealing with the prevention of disease and the promotion of the public health. It has been my experience that such education, while profitable, is rather slow. The quickest and most valuable way of teaching the public is through the schools and colleges. Public health education makes its greatest impression upon the young. Their minds can be molded to think along the lines of health and sanitation.

The health talks in this book have received the hearty endorsement of the Department of Public Health and Charities of Philadelphia. They are written in such popular form as to be understood by every school pupil and college student. The subjects are so varied as to cover a very wide scope of public health work. A more intimate knowledge of these various principles of preventive medicine will be of greater material benefit than all legislation intended to regulate the habits and customs of the very busy American public.

WILMER KRUSEN, M.D.,

Director, Department of Public Health and Charities, Philadelphia, 1916-1919.

PREFACE

PUBLIC HEALTH education is the foundation upon which rests the future progress of preventive medicine. The health officer cannot enforce his principles of sanitation and hygiene unless he can first make his community understand the importance of the various problems with which the public is confronted. The greatest drawback today in the programs of our health officials is ignorance of the public in matters dealing with the prevention of disease and the promotion of public health. Many have tried through the press, by lecture, by health literature, to convince the public of the importance of rightful living. But the people whom we most desire to reach can neither read nor write, or their foreign customs are such that they cannot or will not accept the new American ideas.

Our great housing problems, our infant welfare work, our effort to prevent occupational and infectious diseases, our campaigns to prevent accidents and our slogans to promote health depend entirely on the public's appreciation of the significance of these great factors. In order to bring our lesson home forcibly, we must

educate and keep on educating the public. The manner in which this should be done so that it will include the rich and poor, the educated and the illiterate, is a problem.

One way of solving the problem, as suggested by the Assistant Commissioner of Health of Pennsylvania, Dr. John D. McLean, is by educating the children. They are the citizens of tomorrow. They are the books of information to illiterate parents. They are the foundation upon whom we rest the future progress of preventive medicine.

This book has been prepared primarily to accomplish the purpose just mentioned. It was designed to instruct the school pupil, the college student and the social worker in the elements of public health. The health talks are arranged in a short, concise manner, in popular form, free from technical terms, so as to be readily understood by the average person of school intelligence.

Large industrial plants, appreciating the value of keeping their employes in good health, are adopting facilities such as rest rooms, recreation fields and auditoriums for their benefit. The need for health education among these employes is becoming more apparent each day. The subject matter in this book is so arranged and selected as to fit the need of such education.

Health lectures are being conducted in most of the large cities by the health authorities in the schools, in child welfare stations and among civic and social organizations. As a guide for such lectures, the subjects mentioned in this volume should prove valuable.

It is not aimed to teach the public how to treat disease, but rather how to prevent it and avoid it.

LOUIS LEHRFELD, M.D.

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Persons having had typhoid fever may after full recovery from the symptoms, continue to excrete from their bodies the germs of this disease. Such persons are called "carriers" because they carry the germs in the body discharges. Their soiled hands coming in contact with food intended for others, spread the infection. There were many cases of typhoid fever in New York City which were traced to a servant who had the disease and carried it to the families where she was employed. She is well known among public health officials as "Typhoid Mary." Carriers of this kind are quarantined by the health department until they are no longer dangerous to the public or they are not permitted to engage in occupations which require the handling of foodstuffs.

HOW TO AVOID TYPHOID FEVER.

In the late summer and fall of each year there is an increase in the prevalence and mortality of typhoid fever. In Pennsylvania almost one-third of the cases are reported during the months of August and September. An analysis of the cases occurring during these months shows that 25 per cent. of them were contracted by persons while on their vacation. This disease has, there-

fore been properly termed "vacation typhoid," having been brought home by vacationists returning from country places, the seashore and mountains where proper sanitary measures had not been adopted to protect the public from infection. The water and milk supply are the chief sources of infection in summer resorts, while the less frequent sources of infection are foods contaminated by flies and by handling, raw vegetables washed in infected water or taken from fields fertilized with night soil, seafood taken from sewage polluted waters, and bathing in infected streams.

The spring of the year is, therefore, the time to guard against avoidable infection with typhoid fever. One of the safest ways to secure almost certain immunity is by vaccination. This is attended with very little inconvenience, and comprises the hypodermic injection of dead bacteria at three different sittings, 10 days apart. The dangers of such inoculation are practically *nil,* for no ill effects have been experienced in the Army and Navy where everyone is required to be vaccinated.

The value of inoculation has been proved beyond all doubt. During the Spanish-American War there were over 2700 cases of typhoid fever, resulting in 248 deaths, among 11,000

troops assembled at Jacksonville, Florida. Vaccination was not advocated at that time. During the occupation of Vera Cruz, however, in 1914, by the United States Expeditionary forces there was only one case of typhoid, and this occurred in a civilian who had not been vaccinated. In the same year there were only 6 cases in the whole army; two of these occurred in unvaccinated men, while the other four were already infected before receiving their inoculations. In the recent World War, typhoid vaccination gave final proof of its value.

This preventive procedure should not be considered as a substitute for the usual sanitary measures, such as good water supplies, clean milk, fly suppression, cleanliness and personal hygiene, but as an important adjunct to them. Persons who intend to travel during the summer, especially in localities where typhoid may be prevalent, should protect themselves against infection by vaccination. While it has not been conclusively shown how long immunity from such inoculation lasts, it is claimed that at least three years can safely be relied upon. If the public should adopt this measure of protection, there will be less typhoid fever in this country and consequently a lower death rate. In 1919, many cities reported the lowest death rate from

this disease in their history. By eliminating the vacation cases, however, there would be established a very low typhoid rate.

Get vaccinated now and avoid future trouble.

Tuberculosis

THE widespread publicity which has been given to the campaign against the spread of tuberculosis has been greatly instrumental in reducing the incidence and the death rate of this disease throughout the country.

Tuberculosis is always contracted from an existing focus, either from the infected sputum of man or from the infected milk of cattle. The latter source has been practically eliminated, as 99 per cent. of the milk in the large cities is pasteurized. The fight against this disease, therefore, is limited chiefly to the proper disposal of the spittle of tuberculous patients. Warning has been frequently sounded against the indecent, foul and dangerous practice of spitting in public conveyances, railroad stations and on the open highways. This nuisance, nevertheless, still exists and tends to disseminate the disease to every individual who is susceptible. It is,

therefore, the duty of every person who has tuberculosis of the lungs, to deposit his sputum in a suitable cup or paper handkerchief which should be carried at all times and which can be readily destroyed after use.

Progressive sanitary experts favor the establishment of detention wards in our hospitals for the restraint of persons with advanced tuberculosis who are dangerous to their fellowmen by reason of their physical condition or their careless personal habits. Public opinion has not yet sanctioned such radical supervision but it is only a question of time when the healthy citizen will demand municipal protection from his infected neighbor. Detention of this character will require a legal commitment backed by police surveillance. Such commitments must be either voluntary or by order of the court, and the method of procedure should follow the lines of commitment of insane patients. The education of the public will accomplish this result in the near future. Meanwhile, it behooves all good citizens to urge the adoption of such a progressive sanitary standard. New York City has already taken this step forward.

Experience has shown that the chances for recovery from this disease are very great, provided the condition is diagnosed in its beginning

and treatment is carried on faithfully and persistently. Fresh air, sunshine, good food and regular habits are the natural and best remedies and these are within reach of the rich and poor alike. On the other hand, poor housing, poor food and other limitations of poverty accentuated by the use of alcohol are important factors which obstruct the progress of this campaign against tuberculosis.

Of particular interest is the fact that tuberculosis among colored people is on the increase while among whites it is steadily decreasing. This indicates the need of more persistent efforts to inform the poor and uneducated about matters of public health. Instruction in the public schools should aid materially in accomplishing this purpose.

The Fresh Air Treatment of Tuberculosis

IN the past there has been a general exodus of tuberculosis patients to the Western States in the attempt to secure climatic living conditions which may effect a permanent cure, or at least arrest the further progress of the

disease. This popular idea has brought many a hardship upon families of meager means who have spent their fortunes in the hope that dear ones afflicted with this disease might obtain the benefit of travel and favorable climate. Places known for their dry atmosphere, and located at a relatively high altitude were Meccas of refuge. Very often those who were on their way to recovery were overtaxed by the burden of travel, change of scene from home, and the mental depression resulting from the absence of friends and relatives, and, instead of improving, their condition became worse.

Of late, there has been a gradual but decided change in the trend of opinion regarding the travel of tuberculous individuals to places distant from home where climatic conditions are said to be ideal. Many of our infected population cannot afford to make such expensive trips which often prove of no avail. The medical profession has been inclined toward recommending places near home, but just far enough away to insure atmosphere free from the dust and dirt of the city in overcrowded and overheated living quarters where infection breeds and spreads, and also just near enough so that the patient may, at frequent intervals, be in contact with those near and dear to him.

There are a number of places in the suburbs of every large city and state close to home where tubercular patients may receive the fresh air cure.

In fact the outdoor life in that part of the country where the temperature varies, has a stimulating effect upon the body, promotes more active resisting powers, and does not have the disadvantages which accompany an unaccustomed climate at a distance from home. The beneficial effects of high altitude have probably been overestimated. The advantage of the fresh air in localities to which the patient has already become acclimated overbalances those in places of low atmospheric pressure. A low pressure causes extra work upon the heart muscles of the patient already physically depressed by reason of his chronic disease.

The number of persons who are permanently cured of tuberculosis is increasing rapidly each year. This is proved by the actual number of discharges from sanatoriums and by the findings at autopsies which show healed lesions in the lungs of persons who have died from other causes. Furthermore, during the last thirty-five years the death rate from tuberculosis has been reduced one-half as a direct result of education of the public on methods of prevention and on the simple measures of treatment. A still greater

reduction in the mortality from this disease and an increase in the number of cures can be secured by the adoption of open air treatment in the vicinity of the patient's home.

Facts About Tuberculosis. What is Tuberculosis?

TUBERCULOSIS is a disease of the lungs, or, less commonly, of the bones and glands caused by a germ called the tubercle bacillus. This germ produces and throws off poisons which kill the structures around it. This germ grows and produces more germs, invading the whole body until finally it kills the person in whom it grows. In recent years it has been shown that the germ frequently gets into the body in childhood, but, since it does not grow easily in the human body, many of these germs are killed at once by juices in the body. Others are inactive for a long time in the glands of the chest or abdomen and do not develop until by some chance the resisting power of the body is lowered

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NOTE: Many extracts in this section are from "What You Should Know About Tuberculosis," by the National Association for the Study and Prevention of Tuberculosis.

sufficiently for the germ to grow, the thoroughly healthy body not being a favorable growing place. Overwork, dissipation, dark dirty homes or work-places, bad or scanty food, late hours, drunkenness, and certain diseases, such as grippe, measles, whooping cough, pneumonia and typhoid fever weaken the body, give the germ the opportunity it needs and enable it to develop. In bodies thus weakened, the germ can flourish, and, if they are not strengthened in time by proper living, the disease will progress. This advance is usually slow and gradual, so that the patient may live from two to ten years, but in the more rare form its advance is rapid, so that the patient dies in from six weeks to a year.

NATURAL RESISTING POWERS.

Fortunately for us the germ of tuberculosis does not grow easily in the human body. All animals have a certain degree of resistance to the germ. In some this resisting power is very low; in some very high. The guinea pig, for example, has almost no resistance to this disease, while the goat has so high a resistance that it is very hard to infect it at all. Among human beings the Indian and probably the Negro show a very low resisting power, and when infected, are

apt to have the rapid and dangerous form of the trouble. The average white man on the contrary has considerable resisting power, and it takes repeated, prolonged exposure and unfavorable conditions of working and living, to infect him, except in early childhood, when, it should never be forgotten, infection is very easy.

HOW THE GERM DEVELOPS.

The first manifestation of the activity of the germ in the body is the formation, usually in the lungs, of a small gray lump, which we call a tubercle. This is about the size of the head of a pin, and when examined under a microscope, it is seen to consist of a cheesy mass of dead tissue with germs lying in it. The formation of this dead tissue by the poisons of the germ is called "Caseation." Surrounding the cheesy center is a double layer of cells thrown out by the body to protect itself from the invading germ. If the poisons of the germ are sufficiently strong, or if the cells surrounding the germ are sufficiently weak, they too will be destroyed, and by degrees successive layers of tissue will be killed, the trouble thus spreading at the outer border through larger and larger areas of tissue until finally the whole lung is involved. When the mass of dead tissue reaches an air tube it is

coughed up and leaves a small cavity behind. When this cavity becomes bigger, other sorts of germs from the outside air may get into it and help the tubercle germ to spread destruction, thus finally producing what we call "Consumption."

If, however, the body is put under favorable conditions of feeding, of fresh air and of wise living, its cells will be so strengthened that it will be able to kill the poison of the germs.

The disease can be compared to a battle between the germs which have gotten into the body and the cells which make it up. If these cells are well nourished and cared for they will win, and will shut in and finally kill the germ; if not, the germs will, by degrees, kill them and cause the patient's death.

TUBERCULOSIS MAY BE CURED.

Once the disease has attacked the body, it always leaves scars behind, as a careful examination of dead bodies will show. Since, however, with careful living, these scars will remain firm and strong, enclosing the trouble, in which by degrees the germ may die out, patients may justifiably be considered "cured"; but it must never be forgotten that as a result of dissipation, poor housing conditions, neglect of personal

hygiene and cleanliness, overwork or sickness, the disease may break out again.

Tuberculosis is not like typhoid fever or smallpox, or measles, or scarlet fever, which diseases are easily and quickly taken if you come in contact with those who have them, and which develop in from one to two weeks. It is caught much less easily, takes a long time to develop after it is caught, and can be prevented from developing very often by clean living, or can be cured or arrested in a large number of cases if it has not gone too far. Therefore, it is not necessary to despair and give up hope if you, or some one you love, has caught this disease, but it does demand an immediate improvement of your ways of life and of your surroundings, so as to strengthen your body to the utmost in order that it may be able to shut in, wall up and conquer the trouble. In tuberculosis, scars are always left and germs for a long time may be found in these scars, and improper living can enable them to break out again, but, as ample experience has shown, it may be so successfully walled in that all symptoms of its presence will be lost, and the patient can resume a normal and useful life if only he is willing to live wisely and prudently. However, a relapse is always possible after an arrest, even after many years.

INFECTION FREQUENTLY TAKES PLACE IN CHILDHOOD.

Infection very frequently takes place in early childhood through the alimentary tract. The germs enter the lymphatic glands and lie quiet here for many years. It seems probable that many of those who develop the disease in adult life have carried the hidden infection since childhood and have not received a new infection when symptoms of the disease appear.

A BAD AIR DISEASE.

As has been said, this disease is probably caught in most cases in childhood and lies inactive in the body for a longer or shorter time until the conditions are favorable for it to develop, but it can be acquired at any time or age. Since the germ can, and often does, lie quiet in the body for many years before it develops and is discovered, it is usually difficult or impossible to say just when or under what circumstances the person became infected. It should always be remembered that it is almost always a house or indoor infection, and that it is rarely if ever caught outdoors where the sunlight, which is our best disinfectant, quickly kills the germ. Thus the great and real danger is from living with

careless, dirty consumptives, and especially in dark, damp, dirty or ill-ventilated houses, sleeping and living rooms, workshops, factories or stores, which have become infected with the germ by the sick people's careless spitting habits. The germ, which is a microscopic rod, invisible to the unaided human eye, is found in millions in their spit from very early in the disease, and it is through this spit almost alone that it reaches others. If we could collect and destroy all the spit of such patients and make them cover their mouths when they cough, we could almost wipe out the disease. Fortunately, when people spit outdoors the danger is not quite so great, since, sooner or later, the sunlight will destroy the germ; but when they spit indoors, as many do, where the sun cannot get at the germ and kill it, it may remain alive and active for a long time. Hence people who spit in this way are a terrible danger to all who live with them, or to those who stay in the places where they live or work. Many people do not know that they have tuberculosis, but think that they have only a "bad cough," when they already have the disease and are bringing up the germs in their spit. Every one, therefore, who spits or has a cough should be just as careful about his spitting as if he knew that he had tuberculosis. If those with germs in

their sputum spit on floors or sidewalks, the sputum will be ground under foot, blown around as dust in the air, and inhaled by other people, and will finally reach the lungs.

INFECTION FROM CARELESS PERSONS IN THE HOME.

In the home the chief danger, as has been said, is to children, although adults may also become infected. The two chief sources of infection for children are, first, consumptive relatives or fellow lodgers, and secondly, infected rooms, dwellings or dishes. Children are apt to be kissed and fondled, and in this way the germs may be carried directly to them. Again, they play around on the floors, too often infected with spit, and thus acquire the trouble. Therefore, the kissing or fondling of little children by sick relatives or friends should be prohibited, as well as the bad habit of feeding them from the spoons and plates of such people. Indeed, as far as possible, children should be kept away from their sick relatives as long as the latter cough and spit.

THE DANGER OF INFECTED ROOMS.

No one should move into a previously occupied home until all the rooms are thoroughly cleaned and aired. In the dark corridors of many

houses the germ may live for a long time and unfortunately many people who would not spit on the floor of a bedroom, will do so on the floor of a corridor. If every one should see to it that his home is kept strictly clean, that as much sunlight as possible is admitted to it, and that no one is allowed to spit on the floor, it would do much to lessen his family's danger of catching this disease.

Dry sweeping of rooms should never be allowed, as it raises clouds of dust, which may contain the germs, which are thus breathed directly into the lungs. Therefore, all broom sweeping should be preceded by strewing the floor with damp sawdust, old tea leaves or bits of wet paper and if it is at all possible, vacuum sweeping or cleaning should be used.

HOW WORKING MEN INFECT ONE ANOTHER.

Outside of the home, there is much danger in insanitary shops, workshops, factories and mills. Experience shows that both clerks and workmen too often spit carelessly on the floors of their work places, and since some of them, often without knowing it, have the disease, they infect their fellow workmen. Every year thousands of American laborers are made sick in this way.

INFECTION FROM A COUGHING PATIENT. "DROPLET INFECTION."

Infection is also carried by coughing and sneezing by which acts fine sprays of mucus are thrown into the air carrying with the droplets, the germs of tuberculosis. This could be entirely avoided if every one formed a habit of covering his mouth with a handkerchief at such times. This danger is so real that public opinion should enforce such a custom.

INFECTION THROUGH MILK.

The germ may also be taken into the body in uncooked cow's milk. Cows frequently have tuberculosis and the germ may get into the milk, sometimes in large numbers. While in grown people this is not a common source of infection, it is a frequent source in little children who drink much uncooked or unpasteurized cow's milk. The germs are carried by the milk into the bowels, pass through their walls and enter the system through the lymphatics, lodging usually in the glands around the roots of the lung, or in those attached to the intestines. Therefore, unless one is certain that the cow which supplies the milk is free from tuberculosis (which can be told by a test that a good veterinary doctor can

easily make), the only safe thing is to pasteurize or boil all milk which is used by the children of the household.

HEREDITARY INFECTION.

It is now known that tuberculosis is not hereditary, and that it is practically never handed on from the parents to the child before birth. We recognize, on the contrary, that the infection comes from tuberculous parents or relatives, who usually infect the healthy born child a short time after birth, if their habits are careless. Even with much care it is difficult to avoid the infection of the children by their tuberculous parents. When we see a whole family die of this disease, one after another, it does not mean that they inherited it from the parents, but that there was carelessness in the family and that each child in turn acquired the disease from the careless parent, brother or sister. However, in families in which there has been much tuberculosis among the parents or grandparents, there is at times found a lowered resistance to the disease so that the children in such families must be brought up with especial care as to their surroundings and life.

THE DUTY OF THE PATIENT TO THE COMMUNITY.

If all people who have any spit would destroy if carefully, would cover their mouths when they cough, would refrain from kissing and would keep their hands clean, and if all milk, for children at least, were boiled or pasteurized before use, unless it came from cows tested for tuberculosis, it would not be long before we would get rid of the trouble entirely.

HOW TO DISINFECT THE HOME.

Hang up by two corners in each room a sheet thoroughly wet with a quart of 40 per cent. formaldehyde solution, after first shutting up all the doors, windows and fireplaces, and stopping up all the cracks with strips of newspaper put on with starch paste. Keep the room shut for twenty-four hours, and then keep all windows wide open for two days. There are several better but more expensive methods of disinfection with formaldehyde, which you can learn of from the Board of Health or your doctor.

Thorough scrubbing of floors and woodwork with hot water and soap is an essential part of disinfection, followed by exposure to fresh air and sunlight. Remember, that mere fumigation

with formaldehyde, without vigorous application of soap and water, and the letting in of sunlight and air, will not kill the germs of tuberculosis.

Don't Catch the Grippe or Epidemic Influenza

DON'T fail to avoid intimate contact with persons having colds or coughs. If required to work in the same office or shop with persons known to have the grippe, insist on proper ventilation of the room.

DON'T mingle unnecessarily in large crowds. Places of amusement and public conveyances owe it to their patrons to afford them reasonable safety and protection from avoidable infection by maintaining proper and effective ventilation.

DON'T forget that careless spitting on the sidewalk and in public places adds to the sources of general distribution of the disease.

DON'T fail to use your handkerchief when coughing or sneezing as the fine spray of mucus resulting therefrom contains the infectious agents which may be inhaled by others.

DON'T forget that fresh air and sunlight are the best germicides. It is, therefore, desirable

for indoor workers to seek the open whenever possible. The windows of the bedroom should be so adjusted as to permit a constant supply of fresh air. The night air is by no means harmful as some folks will have us believe. In fact it is purer than the day air which is contaminated by dust, odors and vapors from the various manufacturing establishments.

DON'T neglect the ordinary "cold in the head" for it may lead to more serious conditions. See your family physician and place yourself under his observation.

DON'T rely on home remedies or patent medicines. You are unable to diagnose your own ailments and less capable of prescribing for them. Let your doctor do it.

DON'T fail to dress according to the temperature of the day. During inclement weather adequate protection should be provided against a cold and damp atmosphere.

DON'T forget that children and the aged are very susceptible to the influences of cold weather. Respiratory diseases are frequently fatal when contracted by them.

DON'T permit your resistance to drop below par by fatigue and excesses.

DON'T forget the frequently repeated warnings against the use of common towels and drink-

ing cups, and against kissing, especially during an epidemic of grippe.

Sore Throat and Its Significance

A COMMON affection during the winter months, which is too often considered with indifference, is sore throat. It is not generally known however that inflammation of the throat is only a local manifestation of a more serious and systemic condition and should be regarded with suspicion more especially among children. Diphtheria and scarlet fever are the serious infections which make their early showing by evidences of changes in the normal condition of the throat. Parents should, therefore, be mindful of this fact and seek the advice of the family physician immediately to determine the nature of the disease.

Records of Health Departments show that most cases of diphtheria are often treated at home for several days before a physician is consulted or before the disease is reported to the Division of Medical Inspection. It is during this period of illness when no special isolation of the patient is adopted and when friends and visitors go to

and from the infected household, that the infection is carried to other families and the disease permitted to spread. This can largely be obviated if all cases of sore throat among children be considered with suspicion and the patient kept isolated from other members of the household until the correct diagnosis is made. Reports frequently show secondary cases of diphtheria occurring in the same house which were due to failure on the part of parents or guardians to isolate the original case at the very onset of sore throat. While a large percentage of cases of scarlet fever are reported from the first to the third day of the disease, yet it is this period without isolation which is a serious source of contagion to others.

The lesson to be learned, therefore, is to settle all matters of doubt regarding early sore throats by consulting the family physician who understands the importance of an early diagnosis, not only from the standpoint of isolation to avoid secondary cases but also from the standpoint of treatment, this being especially true in cases of diphtheria when the best results are obtained from the use of antitoxin at the very onset of the infection.

Other inflammatory conditions of the throat such as the various forms of tonsilitis and

pharyngitis should not be regarded lightly because they are invariably infectious in nature and may lead to more serious consequences. Acute rheumatic conditions, valvular disease of the heart and general blood poisoning may have their origin from infected tonsils. In this respect, adults as well as children may suffer serious physical injury by neglect of nature's warning—sore throat.

Diphtheria Can Be Cured

DIPHTHERIA is a curable disease and to a great extent preventable. It is one of the few diseases for which we have a positive and specific curative agent known as antitoxin which through years of experience has become recognized as the only remedy capable of preventing death in the case of diphtheria.

Prior to the introduction of diphtheria antitoxin more than one-half of the cases of diphtheria died. Today, however, only one out of every eight cases of diphtheria proves fatal. Health officials believe that even this death rate can be largely reduced by the early and proper use of diphtheria antitoxin. In fact it has been definitely proved that every case of diphtheria

can be cured if the antitoxin is given during the first twenty-four hours of the disease. Such has been the experience at the Philadelphia Hospital for Contagious Diseases where thousands of cases have been treated with the remarkable record that no case has ever been lost when the antitoxin was administered during the first twenty-four hours of the disease.

In order that this specific remedy may be administered early in every case, it is necessary for the parents or guardians of children to call in the family physician whenever suspicion of the disease may arise.

HOW TO RECOGNIZE EARLY CASES OF DIPHTHERIA.

Whenever the child has a sore throat with white flaky deposits on the tonsils, immediate suspicion of this dangerous disease should be entertained. It is not necessary to wait for further symptoms, such as fever or marked physical depression, to appear before calling in the family doctor, since diphtheria is ofttimes very rapid in its course and may prove fatal if the proper treatment is not administered at once.

Croupy cough is another suspicious symptom of diphtheria. When this disease affects the larynx or voice box, hoarseness of the voice and

the characteristic ringing cough are the prominent symptoms. If the antitoxin is not administered immediately the patient may die from strangulation by obstruction of the windpipe caused by the diphtheritic membrane. When diphtheria affects the voice box it produces a very distressing and pitiable condition. If the public could only see some of these children fighting for air there would be no question that every precautionary measure would be taken to prevent diphtheria. Furthermore, this particular type of infection may last for many months and even years. Prolonged convalescence is caused by delay in giving the diphtheria antitoxin. Artificial means of respiration must often be made in these cases by the introduction of a tube into the windpipe in order that the patient may breathe. In some instances these tubes must remain for long periods of time, oftentimes years, in order to sustain life.

A running nose is also a characteristic premonitory sign of diphtheria. Parents should look for a dirty-white material which obstructs the breathing. Diphtheria first appearing in the nose is ofttimes overlooked; for this reason we make special mention of instances where children suffer from cold in the head and obstruction in breathing.

Every case of diphtheria begins in one of the ways mentioned above. In order to be on the safe side every case of tonsilitis and sore throat, hoarseness of the voice, croupy cough or running nose should be treated by the family physician. The use of home remedies is dangerous because it delays time in making the proper diagnosis and in giving the early administration of diphtheria antitoxin.

ADVANTAGES OF HOSPITAL TREATMENT.

Attention is also called to the fact that cases of diphtheria treated in a hospital for contagious diseases have a better chance for recovery and of more rapid convalescence than those treated at home, for the reason that expert doctors and nurses especially trained in the treatment of contagious diseases are in attendance at the hospital. Furthermore, isolation is better maintained at the institution than at the home where secondary cases may arise among other children or adults who are in the family.

Parents should never hesitate to send their children to a hospital for contagious diseases when the family physician believes that they cannot be adequately taken care of at home.

It is only by mutual co-operation of the parents, the family physician, and the health authori-

ties that the mortality rate of diphtheria can be held in abeyance. More especially do we place emphasis on the administration of diphtheria antitoxin in the first twenty-four hours of the disease by which procedure we hope to cure every case of diphtheria.

Are You Immune to (Protected Against) Diphtheria?

A COMPETENT physician can determine whether you can or you cannot catch diphtheria by a simple method known as the Shick test.

What is the Shick Test?

A dose of diphtheria toxin is injected between the layers of the skin of the arm. If the person's blood contains antitoxin, nothing happens and the patient is declared immune. If, however, a distinct circumscribed area of redness appears at the site of the injection the test is declared positive, which means that the person does not have in his blood sufficient resistance against diphtheria and is liable to contract the disease. By sufficient resistance is meant certain chemical substances called antibodies.

What is meant by Diphtheria Toxin?

This is the poison produced by the diphtheria germs and is obtained by growing the bacteria in broth for a certain length of time after which they are killed by carbolic acid.

What is meant by Diphtheria Antitoxin?

This is a serum produced by inoculating the horse with diphtheria toxin. The animal's resisting power causes the antitoxin to be produced in the blood.

Is there any risk to the test?

Absolutely none. When the test is positive, the redness which appears, gradually disappears on the third or fourth day.

What is the idea of having the test made?

Diphtheria is a very serious disease. About one out of every eight cases is fatal. The infection exists in this country throughout the year and children between the ages of two and ten are most susceptible. Every father and mother wants to know if their children are liable to catch this disease and if so how it can be avoided.

The Shick test determines this. There is a serum called toxin-antitoxin which when injected confers immunity to those who react positive to the Shick test.

When should the test be made?

All children over the age of one year should have this test made. Nursing infants seem to have a natural immunity to the disease, because of protective substances in mother's milk.

What is a negative test?

If no redness of the skin develops after the Shick test, it means that the blood contains sufficient resisting power to diphtheria. Persons having a negative test and exposed to diphtheria do not develop the disease.

Are adults immune to diphtheria?

After the age of ten, the occurrence of diphtheria gradually lessens. Few adults contract this infection, and are relatively immune to the disease. Statistics show forty per cent. positive Shick test for children, and sixty per cent. positive for adults.

Is there no intermediate reaction between positive and negative?

Yes. The reaction may be strongly positive, positive, moderately positive and faintly positive, depending upon the degree of the redness of the skin.

If the test is positive what is done to prevent diphtheria?

A serum which is a combination of toxin and antitoxin is administered under the skin at three sittings, seven days apart.

Does the toxin-antitoxin serum cause any harm?

No. Local and constitutional symptoms are noted in twenty to fifty per cent. of cases. These are redness, slight swelling and tenderness of the arm and a slight rise of temperature. The symptoms, if any, disappear within forty-eight hours.

How long does this acquired immunity last after the toxin-antitoxin administration?

In 95 per cent. of cases previously susceptible, the protection against diphtheria lasts for years, possibly for life. To make sure of the duration of immunity the Shick test can be made regularly every year.

What is the practical value of the Shick test?

In every school, institution, hospital or home where large numbers of children are quartered, diphtheria may break out at any time. By testing every child on admission, one can determine which children are susceptible to the disease. Those who react positive are given the toxin-antitoxin treatment. In this way diphtheria may

be eradicated. If diphtheria breaks out in your home, antitoxin is given to those who react positive to the Shick test. In this way persons immune to the disease avoid the inconvenience of having the serum injected.

Scarlet Fever

SCARLET FEVER is usually regarded as a very serious disease, but, as a matter of fact, it causes about one-third as many deaths as measles. This comparison is made not to lessen or lighten in any way the dangers encountered by this infection, but to point out how a very contagious and fatal disease may be made nonvirulent by careful, judicious and systematic control.

About 95 per cent. of the cases occur under the age of 21 and by far the largest proportion of these occur among children of school age. It is the early diagnosis and isolation that have greatly reduced the number of scarlet fever cases in the last few years.

Another factor which requires emphasis is that the isolation should be absolute. By this we mean that no one other than the nurse and doctor

should be admitted in the sick room; nor should the nurse come in contact with other household duties. When scarlet fever is treated at home, the likelihood of spreading the infection to other members of the household, especially to children, is great. The safest and wisest precaution in such instances is to have the patient removed to a hospital for contagious diseases, where, under expert care, the child is assured a more speedy recovery and the danger of complications is lessened.

Sore throat is an early conspicuous symptom of scarlet fever. When a child has been well and playful and suddenly becomes very ill with such symptoms as high fever, vomiting, sore throat and reddened tongue, parents should immediately entertain a suspicion of this disease. When a red rash shows itself about the face and body, the evidence is strong in favor of scarlet fever. Delay in securing medical attention at once favors the dissemination of the infection among others, prolongs the duration of the disease and increases the likelihood of complications which are often more serious than the disease itself. Early treatment and early isolation are, therefore, the by-words in this as in all other contagious diseases.

Household Care of Scarlet Fever

SCARLET FEVER, even in its lightest forms, is one of the most dangerous of the contagious diseases. It is contagious from its very beginning until shedding of the skin is completed and discharges from the nose, ears and throat have disappeared. A person gets scarlet fever by taking in the germs that have been shed from a case of the disease, either in the process of desquamation or from the discharges, usually by the breath, but sometimes even by having these germs come in contact with a raw or cut surface. They remain alive in rooms or clothing which have not been disinfected, certainly for months, and possibly for years.

It is best for both the patient and the community that scarlet fever cases be treated in hospitals.

When the patient is treated at home, the following precautions are necessary for the protection of those who have not had the disease:—

The patient should be removed to the room which can best be shut off from the rest of the house. This room should be stripped of carpets, curtains, hangings, and all but the absolutely necessary furniture; the windows should be fly-screened during the summer.

As the germs of the disease settle everywhere in the form of a fine dust, the nurse should wipe off all surfaces in the room and the door-knob, daily, with a moistened cloth.

The hair of the nurse should be completely protected by a covering of washable material and the outer garment by a long gown or slip. These coverings and her shoes must be left in the sick room when she leaves it. Outside the sick-room she should wash her hands, and then her face and neck thoroughly with soap and water.

Dishes, and other articles used by the patient and nurse, should be placed in a bucket containing boiling water, kept at the sick-room door, before being taken to the kitchen for scalding. Food left over should be burned.

Towels, napkins, clothing and bedding should not be shaken and aired and washed until after being disinfected by boiling. Vessels in which bowel movements or urine are carried from the room should be wrapped in a towel.

No one should enter the sick-room but the doctor and the nurse.

No teacher or scholar living in the house at the time of the outbreak of scarlet fever, or during the course of the disease, can attend school until authorized to do so by the health authorities.

Milk jars cannot be returned to the dealer until they have been disinfected under the supervision of the health officials.

The house should be disinfected when the attending physician may desire it, but the final fumigation and removal of the placard should not take place until the case is completely through the peeling or shedding stage, and all discharges from nose, ears, throat and glands have ceased. This may not be completed for several weeks. The danger of contagion during this period may be lessened by daily greasing the entire body with cold cream or vaseline.

When the house is ready for disinfection, everything that has been used about the patient, the clothing worn by the nurse, and the overclothing worn by the doctor should be left in the sick-room, where it will be freely exposed for the proper time to the action of the disinfectant.

Scarlet fever patients are dangerous to others for some time after they are strong enough to leave the bed. As long as there is the least shedding of the skin or discharge from the nose, ears, throat or glands, the patient should be kept away as much as possible from well persons. When the doctor says the patient may go out he should not mingle with well persons any more than is absolutely necessary for the first week or ten

days. Great care should be taken to prevent the patient from taking cold. If there is persistent running from the ears, they should be lightly plugged with cotton, and these plugs burned as soon as they are removed.

It is plain that a case of scarlet fever, if properly managed, causes much trouble to those in the house, and in many private families it is not possible to care for these cases in a proper way. Such cases are much better off in a hospital equipped for treating this disease, where they are treated by physicians who are experts in the disease; they are attended by nurses who are trained to manage the disease properly; as they recover they have the advantage of special sunparlors, and open grounds in which to play and get air without danger to themselves or others.

Chicken-pox

CHICKEN-POX is an infectious disease affecting children, although adults may sometimes become infected. It occurs as a rash upon the skin with many watery blisters, attended by fever. Fatal cases are invariably associated with complications, chief of which is

pneumonia. This latter disease takes an unusual toll among young children and every effort should be taken by parents of children affected by the childhood diseases to avoid any such complication.

Chicken-pox is an important disease from a public health standpoint because it may be mistaken for mild cases of smallpox in which event it may lead to a serious epidemic if not recognized and isolated immediately. Parents are, therefore, urged to have these cases attended to immediately by the family physician with the view of obtaining a correct diagnosis.

In every case, isolation of the patient is essential. Other children in the household should not be permitted to enter the sick-room, nor should neighboring children be permitted to visit the sick. It is not essential for every child to have the chicken-pox to "have it over with" as is erroneously believed by many. Such belief has been shelved with other obsolete and unscientific medical fables.

The placing of a placard on the front door of the home for this disease does not prevent the free entrance and exit of the adult occupants of the house. It is merely a warning sign to others that the disease exists in the household and that those who enter may transmit it to others.

The hearty co-operation of the public is asked in obeying the quarantine regulations regarding chicken-pox, which are the only effective means the health officials have in limiting the spread of this disease.

How to Avoid Smallpox

THOSE who are familiar with the history of smallpox will remember that this pestilence is one of the most dreaded diseases throughout the world. It is, therefore, not surprising that the health authorities use all effort to wipe out the source of infection from every community. Wholesale vaccination is recognized as the only known and positive method to prevent the spread of this disease. All persons who desire to protect themselves and their families should act accordingly, by submitting to this important preventive measure. Revaccination will do no harm and will reassure protection against smallpox.

The value of vaccination has been proved beyond all doubt and those who refuse to submit to it endanger the safety not only of their household, but of the community at large. Like all other marvelous achievements of science, the use

of vaccine virus has been most unjustly criticized. At the present time it does not seem plausible that anyone would reject it in view of the fact that the medical profession of the whole world has advocated it.

There can be no greater assurance of the protective power of vaccination than the fact that doctors and nurses mingle freely with smallpox patients and do not contract the disease because they are vaccinated. The possibility of tetanus following vaccination has been greatly exaggerated and the chances of this complication are *nil* if the operation is performed under aseptic precautions and the wound protected from subsequent infection.

Practically all complicated cases give a history of carelessness in handling the site of inoculation. The virus used is absolutely free from tetanus germs or their poison. This has been proved by an examination of virus sufficient to vaccinate two million persons by the United States Public Health Service. Such a guarantee by the Federal authorities leaves no room for objection to the use of vaccine virus.

The Pennsylvania State Vaccination Commission made a thorough investigation of the value of vaccination. A summary of its report made in 1913 is as follows:

That the protective power of vaccination against smallpox has been conclusively established.

That vaccination is a relatively harmless procedure.

That there is no available substitute for vaccination in the prevention and suppression of smallpox epidemics.

That this report affirming the efficacy of vaccination is in harmony with the reports of all of the official governmental commissions that have considered this subject.

Is Measles a Serious Disease?

MORE children die from measles than scarlet fever. This fact is not generally known but as soon as the public realizes that measles is not to be considered lightly and with indifference so soon will the deaths from this infection be reduced to a minimum.

In order to stay the spread of this infection, it is essential that every case be isolated immediately and that the family physician report the same to the health authorities at once. Mothers requesting their family physician not to re-

port measles to the health officials are placing the doctor in a very embarrassing situation. Under the State law, a physician may be prosecuted who wilfully fails to report such cases. There appears to be no logical reason why objection should exist against placing a placard on the door of the house which indicates to neighbors and to friends that measles exists in the household. Adults may leave and enter the house without molestation and there is little or no inconvenience caused by the posting of this sign.

Every unreported case of measles is a serious menace to others and acts as a distributing focus of the infection to neighboring children. Whenever a death occurs from this disease, it is a preventable one and indicates that some person or persons have contributed negligence either unknowingly or without realization of the seriousness of the disease.

It is admitted that measles is very difficult to control because of the prevailing public opinion of the infection and because science has not as yet brought forth any specific preventive or curative measures for the disease. It is unknown how many deaths occur among children whose parents thought it prudent to expose them to the infection "to have it over with." This principle of exposure has long been exploded and

relegated among the ancient obsolete methods of medical science. At least the disease may be avoided until the child is older and when he is more physically able to resist the possibilities of complications which are invariably the contributing causes of death.

Whooping Cough

ONE of the most distressing diseases of childhood that reaches the height of its prevalence in the Spring is whooping cough. Parents should therefore adopt the principle of preparedness by protecting their little ones from infection with this exhausting and dreaded disease which caused nearly twice as many deaths as scarlet fever.

Whooping cough is not to be considered lightly or with indifference. Aside from its high mortality rate, the pain and suffering caused by this disease should arouse every mother's anxiety to keep this infection away from her household. To do this effectively, instruct the children not to play with others who have the disease. If your child has the infection, it is your duty not to allow other healthy children to be in its company. All discharges from the mouth

and nose of the sick child should be received in paper napkins or clean cloths which should then be burned, since it is through these secretions that the disease is spread. Separate cups, glasses, plates and other eating utensils should be kept for the sick child.

Those who are familiar with the symptoms of this disease will remember that the child first complains of an ordinary cold in the head. There is slight fever, dry cough and running of the nose, and the eyes appear bloodshot. The cough becomes worse and more persistent especially at night and is soon followed by a succession of violent coughs causing a flushing of the face and a sense of suffocation. There is a common and by no means inaccurate expression that "the child coughs until it is black and blue in the face." This paroxysm of coughing may last several minutes and is followed by a sharp loud crowing sound or whoop which gives the disease its descriptive name. The child is often quite exhausted after these spells which may, in some instances, cause rupture of the bloodvessels of the brain, hemorrhage in the eye and nose bleed.

No one can actually appreciate the suffering of these little children affected with this disease until he has seen a patient in one of the spasms

of coughing. Every effort should therefore be made to reduce the severity of these attacks or the frequency of their occurrence by avoiding all forms of excitement. Laughing, crying, over-eating and drinking may provoke these coughing spells. During the febrile period, the child should be kept in bed in a well ventilated room. The bedclothes and clothing of the child should be disinfected by boiling.

If the child is well enough to be up and about, it may be taken out in the open, either in the back yard or on the enclosed porch, but by no means should other healthy children be present. All cases of whooping cough are restricted from school until the disease is cured, nor are they allowed to visit public places or to ride in public conveyances. Obedience to the precautions mentioned will greatly assist in reducing not only the incidence of whooping cough, but also the high infant mortality of every community.

Mumps

WHAT is looked upon as one of the milder diseases of childhood and early youth, and which probably does not receive its full share of watchfulness and care, is the disease known as

"Mumps." This is a germ disease, the period of development varying from ten to twenty-one days after exposure to contagion, the disease spreading from one person to another through contact with those suffering from the disease.

It is most likely to occur between the ages of five and fifteen, but is very infrequent in early infancy. The disease is more prevalent in the spring and fall months.

It first shows itself by pain and stiffness behind the lower jaw and under the ear, followed by a broad swelling of the cheek, most noticeable under and in front of the lobe of the ear, usually appearing on the left side first, and frequently followed in a few days by pain and swelling on the other side. The pain is increased by movement of the jaws, as in the drinking of liquids or in the chewing and swallowing of food.

The following conditions complicating mumps are not to be overlooked:

High fever causing delirium.

Delirium caused by certain brain conditions.

Deafness which may be lasting.

Children should not be neglected during an attack of mumps, as the disease may seriously affect certain important organs of the body.

High Lights on Infantile Paralysis

THIS disease is so called because it affects chiefly infants and young children, and is characterized by paralysis of one or more parts of the body.

Younger children are more susceptible than older children. Adults, however, may sometimes contract the disease.

It is caused by a poisonous substance, called a virus, which is capable of passing through the finest filter, and when inoculated into a monkey causes symptoms similar to infantile paralysis.

This virus has been detected in the secretions of the nose, throat, and intestines of persons affected with the disease.

Coughing, sneezing, kissing and spitting may distribute the disease to others, as may also the ingestion of foods contaminated by infected persons.

A most important disseminator of the disease is the "carrier" who harbors the infectious agent in his secretions, but is not affected or made sick by its presence.

Flies and other household insects are said to transmit the disease.

Street dust may also disseminate the dried virus of this infection.

The average case begins with fever, pain in the head, back and limbs, stiffness of the extremities, and in infants symptoms resembling summer diarrhea may be evident. Within twenty-four or seventy-two hours signs of paralysis begin to appear, usually in the lower, often in the upper extremities. Pain and tenderness exist along the nerves and in the muscles, on pressure. After the acute symptoms subside the stiffness of the limbs gives way to weakness and flaccidity, which are soon followed by wasting of the muscles. The resulting paralysis, however, may be much improved by constant and proper medical treatment, and in some instances cured.

PREVENTIVE DON'TS DURING AN EPIDEMIC.

Don't allow the children to play with others who are strange or unknown.

Don't take the children to places where the disease is known to exist in epidemic form.

Don't fail to observe the general rules of sanitation which apply to all other infectious diseases. Screen the doors and windows and destroy all household insects. Keep the garbage pail tightly covered, and see that its contents are taken away on the regular collecting days. Personal cleanliness is especially essential to ward off this disease.

Don't forget that fresh air, sunshine and good food are excellent preventive remedies, for these increase the individual resistance, and lessen the susceptibility to infectious diseases. Children should, therefore, not be confined to their homes, but allowed a reasonable amount of freedom for play.

Don't fail to call your doctor at the first sign of illness of your child. To prevent the spread of this disease it is necessary that most careful attention shall be given to all cases of suspicious illness and unremitting attention maintained in carrying out the requirements for keeping children in good health.

Don't be deceived by patent medicine cures. There is at present no specific remedy for infantile paralysis.

Cerebrospinal Meningitis

"SPINAL MENINGITIS" as it is commonly called is an acute infectious and communicable disease caused by a germ which gains entrance to the central nervous system through the nose and throat. The attention of the health officials and the public is called to this disease

because of its unusual prevalence in the larger cities.

The seasonal prevalence of this disease follows closely that of pneumonia. The most important factor responsible for the spread of this disease is the "carrier." This is a person in apparently good health who harbors the germs of the disease in the nose and throat, transmitting the infectious germs to others who are susceptible to the disease and who may readily contract it. When the infection is prevalent, a large number of these carriers may be found. In order to check the disease, therefore, it is necessary that every case of suspected cerebrospinal fever be isolated and that all persons in contact with each case be examined and kept under watch of the health officer.

Cerebrospinal meningitis is a very fatal disease. Fifty-five per cent. of the cases die. Among those who recover, permanent or at least prolonged disability may result. Children and young adults are especially susceptible. The disease attacks the nervous system and is attended with high fever, headache, backache, extreme prostration, and later convulsive seizures. It may terminate fatally within a very short time.

There is, however, a curative remedy for the disease. This is a serum which when injected

early into the spinal canal of the patient combats the infecting organisms and their poisons, bringing about an early convalescence. The preventive measures for this disease are exactly those of pneumonia. Coughing, sneezing and expectoration are the spreading agents of infection and should be controlled by the well accepted methods advocated from time to time in the health bulletins. Good food, fresh air and warm clothing are favorable protectors against this disease.

Colds, Coughs, and Pneumonia

EVERY person who has a cold in the head or a cough should be careful to protect others by seeing to it that all nasal and mouth secretions discharged by the act of coughing and sneezing should be deposited in proper receptacles or in pieces of cloth or paper which can readily be destroyed by burning. The people should protect themselves by avoiding spitting in public places and attention is called to the law which prohibits expectoration on the sidewalks, in public buildings, and public places as well as in conveyances. It is highly probable that colds and pneumonia owe their spread largely to this dangerous habit.

A person affected with a cold should sleep in a room by himself, and if that is impossible, should sleep in a separate bed. Any one who feels creepy or chilly or hot should take his temperature and if it is above the normal mark on the thermometer, should go to bed and send for a physician.

These simple concise suggestions may be further supplemented by the advice to avoid places where there is overcrowding, especially if the ventilation is poor or improperly maintained.

Proper and sufficient clothing should be worn according to the daily weather and not according to the season of the year. The skin is an accessory organ to the lungs, and its function should not be impeded by scant or improperly selected clothing.

Bed clothing has been claimed to be an active medium of transmitting infectious colds, particularly in lodging houses and hotels which are not conducted in the strictest sanitary manner. Airing of bed linen and blankets is, therefore, advisable at various intervals.

Too often the ordinary cold in the head is neglected, or the patient expects time to act as the healer. While it is true that many cases of "cold" resolve themselves without treatment, there are many instances in which it is the fore-

runner of a more serious affection of the respiratory tract. Early treatment is therefore suggested to avoid the possibility of complications. Home remedies are too often relied upon and thus delay the proper and effective treatment by the experienced physician. The usual prevalence of coughs and colds has already begun and should act as the forewarning of more serious infections of the lungs. Consult your family doctor about the cough, hacking, or cold in the head that seems to "hang on" after the usual household remedies have failed.

Facts on the Causes and Prevention of Pneumonia

PNEUMONIA is an acute infectious and communicable disease and at present causes more deaths than pulmonary tuberculosis. It is a disease of the lungs which comes on suddenly, or is a complication of other diseases.

Twenty-five per cent. of the fatalities occur among infants before their first birthday.

The first year of life and the age period of 50 to 70 years contributes one-half of the deaths from pneumonia. During the influenza epidemic of 1918, adults between the ages of 20 and 40 were chiefly affected by pneumonia.

The least number of deaths occur between the ages of 10 and 15 years.

The rich and poor alike are affected by this disease.

Infection occurs in large gatherings, in public places and in homes where proper ventilation and heating are not properly carried out.

Epidemics of pneumonia are always associated with an increased number of deaths from heart disease, pulmonary tuberculosis and Bright's disease.

Exposure to extremes of cold and inclement weather predisposes to infection.

Improper and insufficient clothing, which permit the chilling of the body, reduces the resistance to pneumonia.

To guard against this disease, one must be adequately protected by warm clothing. Public conveyances and public places should be adequately ventilated. Fresh air is a germicide and kills the germs of pneumonia. Such air must not necessarily be cold and freezing temperature. Warmed fresh air is much more comfortable and desirable indoors than the raw wintry atmosphere.

Spitting in public places is a dangerous and unlawful practice. Pneumonia may be communicated through such a foul and repugnant habit.

Infants and the aged should be guarded against exposure to cold by adequate heating and ventilating in the home, as they are very susceptible to the influence of extreme cold weather.

Persons should keep in good "trim" to increase the resistance against the disease by avoiding excesses of all kinds, by obtaining eight hours sleep each night, by avoiding fatigue caused by long hours of work, and by avoiding persons who cough and sneeze.

Persons suffering from colds, no matter how trivial, should seek the advice of the family physician, since pneumonia may be preceded by inflammation of the upper respiratory tract.

Why You Should Not Spit

BECAUSE spittle may contain the germs of disease.

Because promiscuous spitting may spread

tuberculosis,	tonsillitis,
pneumonia,	sore throat,
influenza,	infectious colds,
diphtheria,	bronchitis.

Because two out of every one hundred persons are affected with tuberculosis, who may spread the disease by careless spitting.

Because one out of every four deaths is caused by tuberculosis and pneumonia.

Because persons in apparently good health may harbor the germs of disease in the secretions of the nose and throat without themselves falling ill.

Because spittle may be carried home by shoes and skirts.

Because spittle contaminates the atmosphere which we must all breathe.

Because the health of every man, woman and child is jeopardized. Because it is unlawful.

Hay Fever and its Prevention

IF you should chance to hear a passerby sneeze repeatedly, remember that the hay fever season is on. This periodic affection, occurring about the time of the hay harvest is a widely distributed disease, affecting both children and adults and causing much distress and misery among its many victims.

Beginning like an ordinary cold attended with blocked nasal passages and characterized by paroxysms of sneezing, the disease may at first attract little attention, especially among children,

when it is often mistaken for the usual cold. Unlike the latter condition, however, the nasal discharges usually remain thin and watery and become thickened only toward the termination of the disease. Cough is a common symptom while asthmatic attacks may often occur. These symptoms are very depressing to patients who often become very low-spirited.

The disease was first described in the early part of the 19th Century when it was termed autumn catarrh, since it occurred chiefly in the late summer and early fall. There is a type of the disease which is also prevalent in the spring, while in the Southern States the affection occurs all the year round.

The disease is caused by the action of pollen of certain plants which is carried by the winds and finds lodgment in the nostrils of persons who are particularly sensitive to this affection. The most important plant which is the chief offender in this locality is the common rag weed. This weed which grows to the height of one to five feet and blooms from August to October or later can be found on almost every vacant lot, neglected field, on the roadsides, and in uncultivated gardens and lawns. Its pollen is abundant and is readily distributed by the wind. From a public

health standpoint, therefore, such noxious weeds are a nuisance and a menace.

The best method of eradicating hay fever weeds is the cultivation of neglected grounds, but where this is not feasible, the dangerous weeds should be uprooted or cut down before the flowering stage. This prevents the formation of pollen and the production of the seeds. United action on the part of the public to rid their community of noxious weeds will greatly assist in eliminating hay fever which is an entirely preventable disease.

Mouth Infections as the Cause of General Diseases

ONE of the most recent advances in medicine is the discovery that many of the general systemic and organic diseases arise from infections of the mouth. The most frequent of these sources is the teeth, while next in importance are the tonsils and sinuses or cavities in the bones of the face. To the average laymen it may seem unbelievable that heart diseases, rheumatism, chronic joint inflammations, muscular pains, indigestion, stomach and intestinal disorders in many instances are caused by hidden or unsus-

pected abscesses at the roots of teeth, imbedded in the tonsils or concealed in the bony cells of the face which have direct communications with the nose and mouth.

We may go still further. General systemic diseases with vague or indefinite symptoms, melancholia, neurasthenia and neuritis may be caused directly by the infectious or toxic products of abscesses about the teeth or tonsils. A peculiar feature about these infections is that no symptoms may be caused at the original seat of the abscess and for this reason the patient's attention and ofttimes that of the doctor is not drawn to the true and original focus of disease. It is said that the haphazard and careless filling of teeth, imperfectly adjusted crowns and bridgework may be the cause of concealed and poisonous teeth abscesses which infect the blood stream and lodge in such places as the joints, muscles, heart and kidneys.

Numerous instances can be cited by medical practitioners where the source of unexplained systemic diseases arise from infections in the mouth. X-Ray records are many which point to abscesses about the teeth which could not have been diagnosed in any other way.

This emphasizes the importance of cleanliness of the teeth and mouth. Routine measures of

brushing the teeth and rinsing the mouth with a suitable lotion prescribed by the dentist or doctor will be a material aid in avoiding the formation of such abnormalities. It also indicates the necessity of having the tonsils removed after successive attacks of tonsilitis.

The medical profession has learned the importance of clean, sound teeth as a preventive measure against serious constitutional diseases. It remains for the public to take advantage of this well recognized principle of hygiene by practicing routine cleansing of the mouth and by applying to the dentist for the correction of any defects which may encourage the formation of abscesses.

Prevention of Insanity

MILLIONS of dollars are spent each year for the care of the insane. While this large expenditure is for a good cause, it can and should be much reduced since medical science has proved that about one-third of all cases of insanity are preventable. Some authorities make still greater claims, stating that 40 to 50 per cent. of insanities can be prevented.

One of the most common causes of insanity which can in a large measure be controlled is alcoholism. It is a well recognized fact that alcohol, when used to excess by persons of feeble mentality, is responsible for about 10 per cent. of all cases of insanity. Venereal disease, which seems to go hand in hand with alcoholism, contributes about 13 per cent. of cases. Thus it is shown that these two preventable causes contribute a large proportion of cases to the insane population of a city.

Immigration is another fruitful source of cases which can and should be largely eliminated. This importation of insane, coupled with the burden of their care, has become a serious and troublesome problem for the local and national health authorities. The test of literacy is wanting in weeding out imbeciles and degenerates who may be able to read and write well, while the healthy illiterate may become a valuable citizen and the parent of children of high potential intelligence.

The negro contributes a goodly share to the census of the insane. He lacks a guiding hand, thus making him dependent upon his own resources. Useful trades and arts are denied him and as a result he leads a life which predisposes him to alcoholism and social disease.

Heredity can be traced in nearly 50 per cent. of all cases of insanity. This may explain the Biblical phrase regarding the sins of the fathers being visited upon the children unto the third and fourth generations. The intermarriage of feeble-minded persons is a fertile source of many imbeciles and idiots. Segregation and institutional care should, therefore, be insisted upon in order to prevent a degenerate progeny.

Among other causes of insanity are acute infectious diseases, certain poisons taken internally or produced in the body, injuries to the head, and heat exhaustion.

Laborers and the unemployed furnish a large proportion of cases, thus showing that those of feeble mentality cannot progress far in their pursuits. This brings up the question of controlling such persons as tramps, vagabonds and the inefficient who cannot or will not work.

Attention is also called to the popular writings referring to operations on the brain for the correction of moral delinquencies. This is an erroneous conception, since surgery cannot cure many of these cases.

The following measures should be adopted to prevent the great loss of useful citizens caused by insanity:

(1) Education of the public as to the dangers of alcohol and venereal disease.

(2) The adoption of strict measures on immigration to prevent the importation of the insane and more stringent laws of deportation of the insane alien.

(3) Teaching the negro useful occupations.

(4) Protection of the unemployed.

(5) Institutional care of the insane to prevent propagation of a degenerate offspring.

(6) Careful medical supervision of children with neurotic tendencies and with a hereditary history of insanity.

(7) Persons showing the slightest signs of mental disturbance should seek the advice of a physician at once. Early treatment may mean a permanent cure.

(8) Stated hours of relaxation and diversion secures good mental health.

The High Cost of Preventable Disease

EACH year thousands of cases of communicable diseases are reported to the Health Departments. The number reported, however, is only about one-third of the actual cases of infectious diseases which occur, there being a large number of the minor reportable diseases which do not come to the attention of the physician. If, to this estimated prevalence of sickness caused by preventable diseases, were added the cases of illness arising from various hazardous employments, from faulty housing conditions, from neglect or lack of intelligent care, the extent of disease from purely avoidable causes would reach enormous proportions. Moreover, if such sickness were valued in dollars and cents, the calculation would approximate large sums of money.

It has been estimated that the economic saving throughout the country, if needless sickness, deaths and fatigue could be prevented, would be about 1,500 millions of dollars annually.

Although it is not known just what proportion of diseases and deaths are avoidable, it is a recognized fact that the percentage is by no means a small number, especially if we include the diseases among infants and children.

This economic problem has not only attracted the attention of health officials, but is now being earnestly discussed by civic organizations throughout the country. A united effort is being made to divide the burden of sickness among those more or less responsible for the conditions predisposing to disease and premature death. This divison of the cost of disease has been molded in the form of health insurance, which aims to protect the low wage earner from financial reverses in the event of sickness in his family by making provision for medical attendance, for medical supplies, and financial assistance.

PART II

SUBJECTS FOR SPRING AND SUMMER

Spring Tonics

IT is estimated that $75,000,000 are spent annually in the United States for patent medicines, a large number of which are the so-called spring tonics. The actual value and benefit of such medications may be exemplified by the following remark made by a prominent druggist who conscientiously opposed the sale of cure-alls. A customer applying at the drug counter asked the pharmacist what a certain patent medicine was worth. The scrupulous clerk replied, "worth absolutely nothing, but if you ask what it sells for that is entirely different."

It appears strange that at this age of general enlightenment when public health education is being spread broadcast, that millions of people will still believe that health can be found in the medicine bottle. We fully appreciate that many of our home remedies are efficient and may relieve many

complaints when properly administered. It is an error, however, to place faith in the patent medicine which claims to cure or relieve any and all complaints or each and every disease.

In the Spring, when the active mental and physical energy is somewhat slackened, and when the indoor worker, fatigued during the trying winter months, is anxious for a lull in the usual routine, there is a general wave of tiredness and exhaustion which seems to overtake the average wage earner. This is called in common parlance "spring fever." In order to combat this feeling of inactivity, persons will often resort to the use of the so-called spring tonics.

It is this indiscriminate use of medicine that takes millions of dollars needlessly and wastefully from the public purse. Furthermore, the usual patient is incapable of diagnosing his own case, and even less able to select from the many bottles on the drug store shelves which may suit his individual case. The taking of patent medicines gives the patient a false sense of security, and during the period of medication, the actual physical disorder or disease may be progressing.

In the vast majority of instances the so-called "spring fever" requires nothing more than the usual home remedies. Discretion in diet, attention to the personal physical needs, routine out-

door exercise, and an occasional mild laxative will go a long way toward eliminating that tired and seemingly exhausted state which occurs at the onset of mild, fair and warm weather. Should these general hygienic measures fail, then your case is one which requires the attention and skill of a medical practitioner.

The Malicious Medicine Habit

ALTHOUGH the dope fiend is under the constant vigilance of the police and Federal authorities, the habitual medicine user goes unrestricted, purchasing drugs by the bottleful and pills by the hundreds. The latter evil is by no means a trivial one, as many a poor person has been made poorer, the sick sicker and the weak weaker, because of the mistaken belief that health could be found in the medicine bottle. Tradition, custom and the "medicine man" have been largely responsible for the extensive use of many of the drugs today. There are numerous people who still believe that illness requires the immediate use of medicines and that there are some mysterious or miraculous qualities in them which drive away the evil spirits of fever.

Indiscretion in diet, overdrinking, careless habits and improper living cannot be corrected by taking the contents of the corked medicine bottle. As a matter of fact, the number of drugs which are considered as specifics for definite diseases may be counted on the fingers of one hand. It is, therefore, folly for the public to expect even a reasonable amount of benefit from some of the "cure-all" medicines which are now upon the market.

After all, medicines only play a minor part in the treatment of disease. They are the adjuvants or accessory agents which assist nature in combating the invasion of the disease-producing germs. They cannot act as substitutes for the common sense rules of rightful and healthful living. If such were the case, the study of medicine would be a simple science and health could be purchased in the drug store. This idea, however, is often conveyed by many of the widely advertised remedies and cures for "lame back," kidney and stomach troubles, liver disorders, and various other common complaints. Of course, it pays to advertise, but a misrepresentation of the facts is unfair and very costly to the sick. In fact, the patient is given a false sense of security in the remedy purchased, while the disease may become progressively worse.

We have all met in the course of our daily work men and women who constantly carry upon their person some form of pills, which they take religiously as though life were actually dependent upon them. It is true that the medicine fiend may obtain some relief from his habit pills, but such benefit is only temporary and is more likely mental than physical. It is certainly easier to take pills than to change one's mode of living, but sooner or later the medicine fails—perhaps too late to regain the physical strength lost through dissipation and careless habits.

It should, therefore, be remembered that medicines are curative in only a small percentage of diseases, that the results of disregarding the laws of personal hygiene cannot be corrected by drugs, that health cannot be found in the patent medicine bottle, but that the simple life, good food, fresh air, sunshine and obedience to the well-recognized laws of rightful living are of more value than all the medicines combined.

Misbranded Medicines Condemned

THE unsuspecting public has been the victim of medical cure-alls for many years, and patent medicines have become so numerous upon the market that they have become a serious menace to the public health. There are many people who still believe that health can be purchased at the drug store, and that patent medicines of unknown composition contain miraculous qualities in them which cure any and all disease. The health departments throughout the country and the entire medical profession are, therefore, uniting forces to break up this evil and to instruct the public in the dangers which lurk in many of the high-priced preparations of unknown composition. The American Medical Association is now carrying on a vigorous propaganda for reform, analyzing the various preparations placed upon the market and exposing their merits or demerits as the case may be.

The Federal authorities have recently prosecuted several manufacturers for misbranding drugs and have seized a number of falsely and fraudulently labeled medicines intended for interstate commerce. There were 4012 bottles of a certain patent medicine gathered up by the Federal agents in Philadelphia only a short time ago

because the labels on the bottles and pasteboard packages bore statements regarding its curative properties which were false and fraudulent. The manufacturers of this preparation claimed that it was efficient in the cure of consumption, coughs, colds, croup, asthma, bronchitis, sore throat, whooping cough and a number of other ailments. The court ordered that the goods should not be sold unless truthfully relabeled.

A verdict of guilty was also rendered against a corporation in Philadelphia for shipping into interstate commerce a product which the manufacturer claimed to be effective for dissolving gall stones, for curing diabetes and for relieving catarrh of the bladder. The Government alleged that the statements in the circular of this preparation were false and fraudulent.

There are, however, many more such frauds which are being worked upon the public. These are not only a financial loss to the people because of their high cost, but often endanger the life and health of persons who take these worthless preparations. The deceived victim is given a false sense of security by these untrue claims and often does not realize the danger until the disease has advanced too far for medical aid.

Furthermore, the narcotic drugs and the amount of alcohol contained in many of the

patent medicines are the basis of serious complaint against their constant use. The dangers of these, especially in persons already debilitated by disease, are clearly manifest.

Getting Rid of Household Pests

AFTER all rubbish has been removed and cobwebbed corners of the home cleaned out, the application of the following rules and recommendations will be effective and produce good results in the elimination of house insects common during the warm season.

Roaches:—Coal oil is one of the best agents for the destruction of roaches and their eggs. It should be sprayed freely by means of a machine oil can into the cracks and crevices of the floors and other woodwork where they breed. Powdered borax mixed with a little sugar is also a good remedy, but in the presence of other food borax is not very effective. It is suggested that cracks and crevices which are their hiding places be closed up with putty or paint. Since these pests hide by day and go forth at night to feed, it is essential that all foodstuffs be kept under cover and crumbs carefully swept from the floor.

The kitchen sink should be scrupulously clean while the kitchen closets should be thoroughly scrubbed from time to time.

Ants:—These little busy workers may readily invade the home. They can easily be destroyed by tracing them to their nests and pouring into them gasoline, benzine or coal oil. When using these substances, remember that they are highly inflammable.

Fleas:—Human fleas, dog fleas and cat fleas are familiar household pests, the latter being the most prevalent. The larvæ or embryo young of fleas live in the interstices of carpets, mattings and in the corners and cracks of floors. Since cats and dogs generally bring these pests into the home, care should be taken that these animals be kept thoroughly clean. Special rugs should be provided for them to sleep upon and the dust from the rugs burned. Hot water, soap and the scrub brush are very effective in destroying the pests which hide in the crevices of the floors. Here again gasoline is one of the best destructive agents. Carpets and heavy draperies should be dispensed with during the warm weather.

Bedbugs:—Their presence does not always reflect upon the housewife, as they may be found in very carefully kept homes. A good way to destroy them is to spray their hiding places with

a solution of corrosive sublimate (one ounce to a pint of alcohol). This substance is poisonous and should be so marked. Gasoline is one of the most efficient agents used in the extermination of the bedbug and should be sprayed freely in cracks and crevices with a machine oil can. Turpentine and kerosene are less efficient and leave oily stains after their use.

Moths:—These are very destructive to clothes when not properly protected. Furs and woolens are particularly susceptible to the influence of moths. Thoroughly brush and clean the clothes before they are put away for the summer. Pack them in large paper bags or boxes which should be made air tight by sealing the edges with strips of paper. Wardrobes should be free of dust and thoroughly cleaned. Naphthalene or tar balls should be freely distributed in trunks, closets and in the pockets of clothes. It is also a good plan to unpack these clothes occasionally during the summer and give them an adequate airing in the sun.

Flies:—Keep the garbage pail covered tightly. Fly paper freely distributed will be a great help in destroying them. A solution of potassium bichromate (one teaspoonful to two ounces of sugared water) or a few drops of formalin in sweetened water will kill flies, when placed where they can

drink. Fly swatters, fly traps and screens can be used to advantage.

Mosquitoes:—Burning pyrethrum powder or sulphur will stupefy them. They then fall to the floor and can be burned with the sweepings. Do not allow any water to accumulate in barrels, pans, buckets, on the roof or any part of the house, as mosquitoes breed readily in standing water.

The Enemy at Home—The Fly

THE fly is a dangerous carrier of disease. It sweeps down upon its victims like a hostile aeroplane, dropping bombs of disease among the civil and military population, leaving sickness and death in the wake of its onslaught. Nor does the damage cease with the death of the fly, for it has likely left behind enough eggs for a new generation and these in turn give rise to many more, so that a single fly in the spring may be the progenitor of millions in the late summer. To combat the fly menace we must, therefore, swat each and every pest. We must also prevent its breeding.

Garbage and manure are their chief breeding places. Every household should have a covered

watertight garbage pail in order to eliminate the possibility of breeding. Owners of stables are urged to keep their places in a clean and orderly manner and avoid exposure of the manure. Stable pits should be fly- and water-proof. Powdered borax should be sprinkled over manure which cannot be placed under cover.

The housekeeper can assist materially in combating the fly nuisance by observing the following measures:

Screen all doors and windows early in the spring. They are the barbed wire fencing against the hostile fly.

Each home should be equipped with a fly swatter. Fly traps are also effective and are recommended. Fly paper can be used with good effect.

All foodstuffs should be kept under cover. Sweets especially attract flies. The fly may readily convey infection by contamination of the milk. This essential food product should be retained in bottles or in covered receptacles.

The kitchen sink should be kept free of fruit and vegetable parings. Soiled kitchen towels and napkins should be placed in drawers.

Remove all food left over after meals. Collect the soiled dishes from the table as soon as possible, and see that they are washed promptly.

Keep the ice box clean and free from odors.

Garbage should be kept in a watertight and covered receptacle.

Damage Caused by Rats

RATS are looked upon as a menace to the public health because they are likely to disseminate bubonic plague, or other disease. They should be thoroughly exterminated, not only for sanitary reasons, but also for economic purposes. They have never been of any use except possibly as scavengers in disposing of garbage. While people in cities are well acquainted with the ravages of rats in homes and stables, they seem to know little about the damage caused by rodents in the fields. In summer, rats and even house mice live almost entirely upon the farmers' crops.

The corn crop is most favored by rats. They are fond of the corn in the milk stage and often climb the upright stalks and strip the cobs bare. Extensive losses have been incurred in this way and fields have been made barren by them. Stacked grain and the feedbin are places of luxury for them. Breweries are often infested with

these pests which are very fond of malt. Fruits and vegetables are frequently attacked by them during transit from various ports, thereby causing much annoyance to dealers.

They are the greatest enemies to poultry, since they prey frequently upon small chicks while in their nests at night. Young ducks, turkeys and pigeons are also likely to be attacked by them. Eggs are also a choice food. A merchant in Washington, D. C., stored 100 dozen of eggs in a wooden tub in his warehouse and two weeks later, discovered that rats had gnawed a hole in the tub and had carried away 72 dozen of them. Young pigeons and squabs are also frequently killed by rodents.

They are said to destroy the nests of wild ducks, woodcock and other marsh birds. The nests of ground-nesting and other song birds are often robbed of their eggs.

No garden vegetable or common fruit is exempt from their appetite. They live on ripe tomatoes, cantaloupes, squashes, pumpkins, melons and many other vegetables. They even climb vines to obtain the grapes and berries. They are fond of apples, pears, cherries, oranges, figs, dates and cocoanuts. The brown rat will readily climb the trees to obtain the fruit from the extremities of the branches. They even make their

way through pipes and drains to get into greenhouses.

They attack seeds, bulbs, leaves, stems and flowers, and eat roses, carnations, geraniums and the choicest of flowers in stores and markets.

They cause much damage by injuring drygoods, clothing, books and leather goods which they seek for building their nests. Lace curtains, silk handkerchiefs, linens, carpets and mattings are often damaged by them.

They also cause fires by carrying matches off to their nests where combustible materials are usually accumulated. Actual gnawing of the matches as well as friction and heat may cause them to ignite. They commonly cause fires by destroying the insulating covering of electric light wires under floors and between walls of buildings. It is the paraffin used on the insulating fibre which attracts their attention.

Each rat causes an approximate damage of $1.00 per year, and since it is estimated that there are as many rats as there are people, the total cost of their support in cities amounts to a large sum. The public is, therefore, urged to make a united campaign against these expensive pests, as their destruction will eliminate the possibility of disease from this source and will result in a big saving to the community.

HOW TO GET RID OF RATS.

Rats are numerous where food exists in abundance and where they can find suitable breeding and nesting places. In the extermination of them, therefore, it is of first importance to keep the house and premises free from anything rats can eat (except, of course, in places not accessible to them) and to exclude them from places where they can find food and a safe retreat for rearing their young. If such precautions are not taken, poison, traps and other means of destruction give very poor results.

Campaigns against rats, to be effective and lasting, must aim not only to destroy the greatest possible number of those living, but, what is more important, must prevent the possibility of further breeding and the ingress of rats from other localities. Experts agree that the only way to get rid of rats permanently is to "build them out of existence." (See page 84.)

Rats may be destroyed by trapping, by poisoning, and by natural enemies, such as the cat and dog.

TRAPPING THE RAT.

In the use of any kind of traps, it should be borne in mind that the rat is extremely cautious and is frightened by anything in the least out of

the ordinary from his usual environment. Place the trap where the rat usually goes for food and change the surroundings as little as possible. In daylight, the rat's vison is somewhat defective, and he depends on his vibrissae to guide him. For this reason, rats avoid large open places and run along side walls or in narrow runways. Traps, therefore, should not be placed in open places, but in narrow runways or close to a wall.

The bait in the trap should always be adapted to the surroundings in which the trap is placed. It should be some odorous article of food which the rat is not in the habit of getting. For example, where grain is plentiful the best bait is meat or fresh vegetables. The bait should be changed frequently. The following varieties of food make good bait: fish, fish heads, raw meat, cheese, smoked fish, fresh liver, cooked corned beef, fried bacon, apples, carrots and corn.

Before being set, the trap should be dipped in boiling water or smoked with a piece of burning newspaper to kill the smell of human hands or rats which have been previously caught in it.

BUILDING THE RAT OUT OF EXISTENCE.

Valuable as are all methods of rat slaughter for repressing the rat, it must be remembered that at best they are only partial and temporary

in their effect. It is rarely possible to destroy all the rats on the premises by such means. Even when this is accomplished, they are soon replaced by other rats from neighboring places as long as the premises furnish an ideal feeding and nesting place for them.

As stated above, the only way to get rid of rats permanently is to "build them out of existence." This is best done by use of concrete or cement in all construction work. Old cellars may be made rat-proof at comparatively small expense by the judicious use of cement. Rat holes may be permanently closed with a mixture of cement, sand and broken glass or sharp bits of crockery or stone. The principle is to allow no opening or crevice of any kind within which rats may nest or find protection from their natural enemies.

Plank sidewalks in back yards, the throwing of old boxes in the basement, or the piling of old lumber or refuse around will supply shelter for rats and furnish a safe retreat for breeding purposes, so that the rat nuisance will continue even though buildings are amply protected.

The concreting of the floors and walls of basements and the removal of plank sidewalks replacing them with cement stones or bricks have the additional advantage of excluding dampness

from the house and contributing to the general cleanliness and sanitary condition of the premises.

In dwellings infested with rats, wire screen compartments should be used for storing food. Flour, seeds, meats and the like should be kept in wire cages. Ice boxes and cold storage rooms should be made proof against rats by an outer covering of heavy wire netting of not more than half-inch mesh. Basement windows and other openings should be screened or raised above the ground.

Where concrete is impracticable, the elevation of the floors above the ground to a height sufficient to permit free access to the natural enemies of the rat is an effective aid in the work of extermination.

Since much of the rat's food consists of garbage and other waste material, it is not enough to bar the rat from the cellar, pantry and private food stores. Garbage and offal of all kinds must be disposed of so that rats cannot make use of them for food. Such things should be collected in covered metallic receptacles, which should be frequently emptied and kept tightly closed and clean at all times. Small amounts of food scattered upon the floors or on the ground over the premises will attract and feed rats even if the main supply of food be hidden.

Slaughter houses, butcher shops, grocery stores and stables should receive the same careful attention as dwellings and should likewise be made rat-proof, if we are to be permanently rid of this dangerous and destructive pest.

The Bedbug as a Carrier of Disease

THE ridicule and fun poked at the bedbug should not obscure the important and serious part which it plays in causing disease. It should be placed in the same class with the fly, mosquito, flea and louse as a menace to public health.

Aside from such tropical diseases as Kala-Azar (a fever of India) and relapsing fever, the bedbug is credited as an agency for the transmission of typhoid fever, scarlet fever, smallpox, bubonic plague, measles, infantile paralysis, leprosy and venereal disease.

It is one of the oldest associates of man and its presence in the home need not mortify the housewife as she is not always blameworthy. It may get into the traveler's trunk or satchel from a hotel or sleeping car and may invade the home through the laundry or on the clothing. It

travels from house to house and may make its home in one place and seek its food in another. When the hungry insect is deprived of its usual boarding house, as when residents move from their homes, it will migrate through a hole in the wall, along the plumbing, or over a roof gutter in search of substance. It thrives best in unclean houses, in the cracks and even crevices of beds, underneath loose wall paper, on mouldings and on picture frames. Chicken houses are frequently infested with this pest. It is found on ships and trains, and seems to regard neither heat nor cold, but is not particularly active during the winter season, when it may go into hibernation.

Because of its prevalence and its methods of travel, it is only fair to state that the presence of the bedbug is not a disgrace as its access to the home may be merely accidental, but its continued presence in the house means a disregard for health. Originally bedbugs had wings which have degenerated into little scale pads that are useless for locomotion; but their slow and sure migration by the use of their six legs seem to compensate for the loss of the wings. While biting, the bug anchors itself to the skin and inserts its gutter-shaped jaws into the victim's skin, extracting blood and injecting its own saliva. In

this manner the bedbug may transfer organisms of disease from one person to another.

The eggs are small and somewhat rounded white objects and are laid in collections in cracks and crevices. Little worms called larvæ hatch out in about a week or ten days. These are yellowish white in color, but later become almost brown. After feeding they go into a resting state from which they emerge as pupae. They then shed their skin five times and finally become full grown adults. The length of time this development requires varies with the warmth and food supply from 7 to 11 weeks.

Bedbugs are hard to get rid of. First find their hiding place and destroy it. Loosened wall paper may have to be taken from the walls or pasted fast. Gasoline may be injected by an atomizer, brush, or feather into cracks and crevices, always remembering that it is inflammable. It will destroy both the adult bugs and the eggs. By far the best agents are the scrubbing brush, soap and hot water, to which may be added washing soda or lye. Insect powders are not particularly effective. Oil of turpentine, coal oil, or a solution of one ounce of corrosive sublimate (poison) to one pint of alcohol may also be used in destroying these pests. The common cockroach and little red house-ant are the natural enemies

of the bedbug. When the house is overrun with bedbugs, fumigation by sulphur is very efficacious.

Germs Useful in the Industries

IN educating the people on matters of public health, the danger of germs in their relation to disease is emphasized frequently in order to impress the reader. As a result, it is often erroneously concluded that the very air we breathe and the food we eat are always contaminated with disease germs. However, it is a relief to know that all germs do not cause disease, and that only a few of them have harmful effects and then only when they successfully combat the resisting power of the human body. Furthermore the bacteria which cause disease are the most difficult to cultivate and with few exceptions are very readily destroyed by the natural elements—sunlight, heat, cold, drying, dissemination by wind and by the water in streams.

Many bacteria are very beneficial and are used to advantage in many ways. The fertility of soil depends in a large measure upon the action of bacteria. The disposal of all sewage and waste of animal and vegetable origin is made

effective by the action of bacteria, which break up the complex compounds into their original elements. This natural process of decomposition of dead organic material, known as nitrification, has a particular significance in preventing soil pollution and in furnishing food for plant life. Without these nitrification bacteria in the soil, plant food and therefore animal food would cease to exist. No better example of their beneficial influence can be illustrated than the part which they play in the filtration of the water and is explained as follows:

After the water receives its preliminary treatment, it is brought in contact with the filter beds of sand. As the water trickles between the fine granules of sand all the solid particles and most of the bacteria are left behind on the surface of the filter. An accumulation of bacteria and decomposed débris upon the filter bed forms a thickly woven network or sieve. The efficiency of the filter is largely dependent upon this newly formed bed of bacteria called the "Schmutzdecke," which catches the solid organic material in its meshes, where it is decomposed and broken up into fine particles. The best kind of filtered water is obtained from this slow sand process which is both biological and mechanical in its action.

The making of wine depends upon the action of bacteria for the process of fermentation, while beer, cider and vinegar also owe their existence to the work of these little forms of vegetable life. The baking of bread would be seriously interfered with if it were not for the action of yeast, a variety of bacteria which impart the quality of lightness and palatability to the bread. Without them sauerkraut, dill pickles and many other table delicacies would not be known. Milk and cream are soured by them, resulting in such products as thick milk, sour cream, cheese, buttermilk and butter. The proper preparation of hides for the leather industry and the curing of tobacco are also largely dependent upon the action of bacteria.

In medicine they are used in the treatment of disease in the form of vaccines and antitoxins. Even in the process of digestion they play an important role. Thus it is shown that there are beneficial bacteria as well as harmful ones. Some bacteria require the association of others for their successful growth, while many are detrimental to each other. It is fortunate indeed that the beneficial bacteria survive the harmful ones.

Diseases Associated With the Soil

THE soil was at one time believed to be one of the most important sources of the spread of the various infectious diseases. It was regarded as the resting place of such diseases as tuberculosis, typhoid fever, malaria, yellow fever and many other communicable diseases. Our advanced knowledge on sanitation, however, has revealed the fact that there are comparatively few germs dangerous to health which live in the soil and practically none which actually grow and reproduce there.

There are, however, countless numbers of bacteria which harbor the upper surface of the soil, but these are beneficial and enrich the soil, making possible the growth of plant life, and enabling the earth to digest or assimilate all discarded animal matter. Without this natural property, we would be deprived of all our vegetable supply and mother earth would be littered with dead animal material.

The disease-breeding bacteria, which may come in contact with the soil, are usually enmeshed by the upper layers of the earth and killed by the more active and more plentiful soil bacteria. There are times, however, when the soil becomes polluted by human excrement

through careless measures of sanitation, or the lack of such measures, and then becomes a great source of danger, either by pollution of the water supply or by contamination of vegetables grown upon infected soils. Cholera, typhoid fever and dysentery may be caused in this manner.

There are also organisms which, because of their resistant properties, may remain in the soil for some time and when, through accident, they are introduced into an abrasion of the skin or a wound may be responsible for such diseases as tetanus, malignant edema, anthrax and blood poisoning.

There may be some relation to the moisture of the soil and tuberculosis, but this connection is most likely an indirect one. Exposure to the influences of a cold and damp soil depresses the vitality and lessens the resistance to tuberculosis. It may also predispose to rheumatic affections and to acute respiratory diseases. As an actual carrying agent of disease, however, the soil plays but a minor part and aside from the dangers encountered by pollution through lack of proper sanitary measures, there is a general tendency to belittle the influence of the soil upon health.

In the cities, where the soil is largely under cover of paved walks and streets, we meet with

the problem of street soil or common dust which becomes a potential danger to the health, because it contains particles of organic waste, manure and vegetable débris, which is often laden with germs pathogenic to man. The abatement of this source of disease is a large problem of sanitation and requires the co-operation of all the authorities, all health and civic organizations, and the public at large to bring about any appreciable result.

Keeping Cool in Hot Weather

HEAT stroke and heat exhaustion are often fatal conditions. They take their toll chiefly among infants and the aged. Not infrequently adults of middle age succumb to influences of high humidity and temperature. Fatal cases among adults are usually the result of carelessness upon the part of the individual in guarding himself from excessive and prolonged exposure to the sun's rays.

Babies must be given special attention during the heated term. Mothers living in closely built up quarters, in tenements and in courts should keep their infants in rooms which are shaded and

ventilated on the ground floor of the house. The top floor is usually very warm, more especially during the evenings after the sun has heated the roof of the house. Whenever possible, babies should be kept outdoors on the shady side of the street or in areaways unexposed to the sunlight. The baby's clothing should consist only of a loose cotton wrap, the arms and legs being bare. Bathe the baby daily.

Persons of advanced years should not walk the streets during the heat of the day. They should seek the parks, the public squares and such shaded places outdoors which will afford them comfort and relief. Aged persons should not work outdoors at laborious trades requiring exposure to the heat.

Among the vast majority of workers engaged at their usual pursuits, a great deal of comfort may be procured if the proper kind of loose light weight clothing is worn. Dark clothes absorb the heat rays and tend to make the individual warm. White or light colored clothing is cool and comfortable.

An office with suppressed soft light appears cooler than one brightly illuminated and receiving the full glare of the sun. Indoor workers can make themselves very comfortable by wearing loosely woven cotton or silk undergarments.

Don't work too fast. Hurry and excitement tend to exaggerate the intensiveness of the heat. Avoid working on the sunny side of the street during the afternoon hours when the temperature of the day is usually at its height.

Keep occupied and don't discuss the weather constantly. The thirst may be quenched by cold weak tea or lemonade slightly sweetened.

Bathe daily. A cold shower after working hours and a change to clean clothing are very refreshing. Sleepless nights may be avoided by taking a cold sponge bath before retiring. Bedrooms exposed to the sun may be closed tightly in order to shut out the heat of the day and then reopened at sundown.

First Aid to Heat Victims

IN order to give proper aid to persons overcome by the heat, it is first essential to distinguish between sunstroke and heat exhaustion, which are the two forms of symptom groups presented by excessive heat and high humidity.

In the case of sunstroke, the patient first complains of a tired feeling accompanied by a sense of oppression in the head. Dizziness followed by

unconsciousness may soon follow. The face is deeply flushed, the breathing labored and the skin is dry and hot. The pulse is irregular and weak.

The symptoms of heat exhaustion resemble very much those of sunstroke at the onset. The skin in this case is cold and clammy and the body temperature is below normal. The patient may succumb quickly if proper treatment is not administered.

The first aid treatment rendered to a heat victim should be to remove him to a cool shady place and to loosen his clothing. One should next ascertain whether the surface of the skin is hot or cold. If the former, the patient should be sponged immediately with ice water. When removed to a more favorable place indoors, a plunge in a tub of cold water should be given. Ice cold cloths or an ice cap can be applied to the head. As soon as consciousness is regained, cold drinks may be given freely. The patient should be kept in a quiet and cool room.

Heat exhaustion, on the other hand, calls for rapid stimulation. By touching the skin of the patient and finding it cold and moist, we can readily come to the conclusion as to treatment. The patient should be covered immediately with blankets, and hot water bottles applied to the feet. Hot drinks such as tea, coffee or lemonade

should be administered if the patient is conscious. Aromatic spirits of ammonia placed on a bit of cotton may be held near the nostrils of the patient.

Every effort should be made to have the patient sent to a hospital at post haste speed where the facilities for treatment are the best. Outdoor laborers should wear proper headgear to protect the head from the sun's rays.

Safety Hints for Bathers and Boating Parties

THE attraction of the water during the summer calls to mind the numerous accidents and fatalities which are reported each year from the various pleasure resorts throughout the country. A timely warning is therefore issued to aquatic enthusiasts to exercise reasonable care and judgment when bathing or boating. In 1915, one hundred Philadelphians lost their lives by drowning—a mortality greater than that of scarlet fever and whooping cough combined. Since many of these deaths were due to carelessness and daring on the part of pleasure seekers, a few words of caution during the height of the vaca-

tion season should serve the good purpose of preventing avoidable accidents.

There is a tendency on the part of many people to stay in the water too long, while others overestimating their abilities as swimmers, find themselves quite exhausted after long swims, thus increasing the possibility of accidents by drowning. Bathing after a heavy meal, cold plunges, or exhaustion may cause muscular cramps which are ofttimes responsible for accidental deaths.

Those who are troubled with heart disease, hardened arteries or poor kidneys are warned against long exposure in the water or taking cold plunges. The bloodvessels of the surface of the body contract under the influence of cold, and the heart in an effort to force the blood through these contracted vessels, fails if unequal to the added strain.

"Rocking the boat" and other misconduct of sailing parties are often responsible for mishaps on the water. All pleasure boats should, therefore, adopt strict rules of discipline and carry a sufficient number of life belts for passengers.

A little knowledge of the first aid treatment for the apparently drowned may prove of great value to every vacationist. A recognized method of procedure is as follows: As soon as the victim is brought ashore, loosen the clothing about

his neck. The body is then turned face downward. Standing astride the victim, clasp your hands about the abdomen and raise the body somewhat from the ground. This act tends to expel the water from the stomach. The person is then turned on his back, the head turned to one side and the tongue drawn forward to avoid interference with the respiration. Kneeling on one knee at the victim's head, grasp both arms just below the elbows, and with an outward sweeping motion draw them away from the body, raising the arms above the head. This causes inspiration by drawing the ribs outward. The arms are then brought down and the elbows pressed against the lower ribs with sufficient steady force to expel the air from the lungs. This should be repeated at the rate of 16 times per minute and continued until normal respiration returns. One or two hours of artificial respiration are sometimes required to revive the apparently drowned.

The victim should be wrapped in warm dry blankets and the legs and arms massaged to encourage circulation. Stimulants should be administered preferably by a physician, and the lungmotor or pulmotor should be reserved for one skilled in their use.

"Dog Days"

THE lower animals may become affected by the heat just as human beings. Our most intimate pet—the dog, may become irritable during the hot weather and run amuck among pedestrians causing the cry of "mad dog." This may account for the erroneous belief that dogs are more apt to go mad during the heated term. As a matter of fact, the disease known as rabies affects dogs at any time of the year and in any climate. Irritable dogs, however, are not necessarily rabid; nor does every dog bite cause hydrophobia. It is nevertheless essential that all injuries inflicted by dogs be considered potentially dangerous until they are proved to be otherwise.

The disease known as hydrophobia in man and rabies in the lower animals, is caused by a poisonous virus which is introduced into the body by the bite of a rabid animal. The dog is a common offender. Cases are on record in which the infection has resulted from the mere licking of wounds or scratches on the hands or face of children by apparently harmless dogs.

FIRST AID TREATMENT.

The first and foremost thing to do when bitten by a dog is to have the wounds thoroughly

cauterized by a physician. This should be done as soon as possible in order to prevent the absorption of the poisonous virus. Special attention should be paid to injuries about the head and face as the greatest number of fatal cases result from bites at these parts of the body. Home remedies are ineffectual and only delay the proper treatment.

The offending dog should be caught and kept under observation for symptoms of rabies. If the animal is infected, the disease will develop in a short time, and will cause its death within a period of ten days. It ofttimes becomes necessary to kill the animal in the attempt to catch it, and to protect other persons from being bitten. In such event, one should avoid mutilation of the head and back because the diagnostic signs of rabies are found in the brain and spinal cord, and it is desirable to have these organs intact when under examination. The police will assist in apprehending the offending animal and remove it to the proper authorities for observation and examination.

If it is found that the dog does not have the rabies, then no harm has been done by the cauterization of the wounds; but if evidences of the disease are found, then the patient should receive the Pasteur treatment without delay—this being

the only recognized preventive measure to ward off the disease. The Pasteur treatment consists of a series of injections of a serum especially prepared for this disease. Since there is no cure for the disease once it develops, it is all-important that this treatment be given in all suspicious or doubtful cases.

Summer Resorts and Public Health

THERE are two kinds of summer resorts from the standpoint of the public health official—those which permit comfort, ease and healthful environments and those which are fertile breeding places of disease, operating under the false pretense of fresh air country, seashore, river and lakeside resorts. Attention is more especially directed to the latter class of pleasure and rest-seeking playgrounds.

It seems that every type of farm house, no matter how dilapidated or unsanitary the surroundings may be, is brushed superficially of its winter dust and accumulations to accommodate the summer boarder. Thousands of city dwellers flock to such farm houses during the heated term to avoid the dust, the dirt and the noise and

heat of the crowded home town, but only to be ushered into more crowded, dirtier and ofttimes filthy environments of the country boarding house. Surely such conditions as actually exist in some of the cheap country lodging houses which are placarded as hotels, are not even comparable to the slums of our cities.

In the congested sections of the larger cities, the water supply, sewage and garbage disposal, at least, are under expert sanitary supervision. This is not so in many of our so-called country resorts scattered throughout the various states to which our residents readily flock during the vacation period. The country pump, unprotected from seepings from the outhouse, or from contamination round about it, has been condemned time and again. The haphazard disposal of garbage unprotected from the disease-bearing fly, together with inattention to the mosquito-breeding rain barrel, all add to the objections lodged against the unsanitary farm house.

About 25 per cent. of the typhoid fever cases which occur in the eastern cities every fall are caused by infections among vacationists who visit such summer boarding houses as mentioned above. It becomes the duty therefore of the health authorities to warn the public against the

possible spread of disease in overcrowded and unsanitary farm houses, more especially in reference to typhoid fever.

The cheapness of the resort is ofttimes a guide to its sanitary conditions. It will pay in the long run to choose a large resort where expert supervision of the health of the community is maintained by the local authorities. As long as the public remains indifferent to the sanitary conditions of the various summer resorts, so long will we continue to have our quota of typhoid cases in the fall, each of which may act as a distributing focus of many other cases.

Spoiled Meats and Ptomaine Poisoning

MEATS spoil very rapidly during the hot weather, especially if not properly preserved by ice. The ingestion of partly spoiled or decomposed meat is responsible for a large number of intestinal complaints in summer. Cooking, however, kills many of the poisonous germs and their toxins, but in some instances the toxic products are not destroyed in the process of cook-

ing and, therefore, may give rise to symptoms of ptomaine poisoning. This is particularly true of sausage, cooked meats which have not been kept cool, shell--fish and salads containing chopped meats. Some persons are very susceptible to the effects of foods with beginning putrefaction, while others may even show ill effects from fresh meats during the heated season, this being due to a peculiar sensitiveness to protein foods. Such persons should eat sparingly of meat during the summer.

The sale and use of spoiled meats can largely be avoided if the housekeeper will learn to detect such foods as outlined in the following descriptions:

Fresh beef should be of a rosy red color, with cream colored, firm, elastic fat, and scarcely moist when touched with the finger. Do not buy wet, flabby beef that is pale or purple.

Lamb or mutton should be firm, close-grained, and light red in color with fat that is white and hard.

Fresh veal is pale red (unless milk fed, when it is light) with firm white fat between the muscles surrounding the tissues, and scarcely moist to the touch. Bad veal is soft, mushy, sticky and has a very red tinge while the fat has a grayish, lead color.

Good pork is solid, has pure white fat and pink flesh. Do not buy pork that is soft and yellow.

Poultry should be firm to the touch, pink or yellow in color and possess a fresh odor and unbroken skin. Stale poultry is flabby, bluish green on the crop and abdomen and has a bad odor; the eyes are sunken, there is a wasted appearance to the flesh of the head and the skin pulls apart easily.

All shell-fish should smell fresh, and the shells should close firmly when put into water or touched with the finger. Shell-fish should be alive when cooked.

Fresh fish should have red gills and moist bright scales, clear eyes, and should be firm and rigid when handled. Stale fish is flabby, has dull scales, the eyes are sunken and covered with a film, the gills are pale, or of greenish color, and the fish has a bad odor. All lumpy fish should be rejected as the growth may be cancer.

To detect decomposing meats in cans before opening, inspect the ends of the can, and if they bulge, discard the can. This bulging is due to accumulated gases of decomposition that push the ends outward by force of pressure. Leaking and rusty cans should also be discarded. Canned meats should be free from mould. The odor of

such meats should be the same as when freshly prepared. If the meat is putrid exposure to heat will make it possible to detect the foul odor.

Smoked meats, fish and glassed meat products are bad when they have a rancid, sour smell, and when the color differs from the fresh product.

PART III

SUBJECTS FOR THE HOLIDAYS

Don'ts for the Fourth

DON'T use fireworks, pistols or explosives of any kind within one square of any hospital or other institution for the care of sick or injured persons, or of any dwelling where serious sickness exists.

DON'T forget that the nuisance created by unnecessary noises applies to the Fourth of July as well as to any other time.

DON'T sell or use toy cartridge pistols, toy cannons or devil bombs. The police have been instructed in many cities to suppress them. They cause most of the serious injuries.

DON'T sell or use fireworks containing picric acid, picrates, dynamite or other highly explosive compounds. They are dangerous to life and limb, and their sale or use is prohibited by law.

DON'T sell or use blank cartridge pellets or other tablets containing dynamite or other highly explosive compound. Their use in pistols, hol-

low canes or any toy for explosive purposes should be prohibited by law.

DON'T let the children have any kind of fireworks in their possession. Small firecrackers have large potential dangers. The supposedly harmless sparklers and lighted punk have caused fires that resulted in loss of life and property.

DON'T forget to teach the children that fireworks are dangerous play toys.

DON'T set a poor example for your children by shooting off fireworks for their amusement. A serious injury may permanently disable the careless parent and thus deprive his dependents of their only means of support.

DON'T let others bring fireworks into your home. If your neighbors persist in the use of aerial display in the form of sky rockets, Roman candles and fountains, it will be safer to close the windows and thus guard against the danger of flying sparks.

DON'T raise toy balloons. They are readily set on fire and often fall on places distant from their origin of ascent, and in this way may be a serious menace to the safety of valuable property.

DON'T have Japanese lanterns and other lighted decorations near inflammable material, or fail to keep a close watch on them during the period in which they are lighted. Swinging

paper lanterns or colored tissue paper about electric lights easily catch fire and should not be used.

DON'T fail to have all injuries from fireworks treated immediately by a physician. Lockjaw can only be prevented by prompt medical treatment.

DON'T forget that a safe and sane Fourth will serve to inspire patriotism and preserve the historic meaning of Independence Day far better than the senseless demonstration by the noise of gunpowder.

Health Hints for Christmas

SINCE Christmas brings with it the spirit of happiness and good-will we must not forget to invite those in less fortunate circumstances, the sick and the distressed, to share in our rejoicing. An appeal to the public is, therefore, made to bring good cheer to the depressed and unhappy in the many hospitals. The sick need our sympathy, as it goes a long way to make their miserable lot less burdensome and to divert their thoughts from things depressing and painful.

The most appropriate gifts for hospitals and charitable institutions are flowers, greens and other seasonable decorations. These impart an air of freshness and cheerfulness to the hospital wards and are so pleasing to the patients as to give them a feeling of well-being. Fruit is also an acceptable donation for the sick, but candies and cakes are not often permitted. Books and games are always welcomed by convalescents and chronic invalids. It should not be forgotten that a personal visit is often more appreciated than a gift; and if the latter is decided upon, it is best to ask the patient's doctor or nurse what is suitable.

In selecting toys for your children, choose those which will take them outdoors where they can enjoy heathful exercise. This applies to girls as well as boys. Skates, sleds, toy wagons, tricycles and doll baby coaches are among the many playthings which entice the youngsters to seek the open air. While indoor games have their value, the children should be encouraged to play outdoors when the weather is fair and pleasant. The city's parks and playgrounds offer the required facilities for play and just as many varieties of amusement in the winter as in the summer.

Shot guns, swords and similar toys should not be entrusted to young children. Serious in-

juries have resulted from such dangerous toys in the past. The shot from an air rifle has frequently penetrated the eye and destroyed its sight or perhaps caused its removal.

Mechanical toys which require the use of alcohol, gasoline, headlight oil or any other inflammable material are unsafe playthings.

Christmas trees should not be adorned with lighted candles as the trimmings may readily catch fire. Paper decorations should be guarded against fire from overheated stoves.

Do not permit the children to exchange their toys, especially those which are apt to be placed in the mouth, such as horns, whistles and mouth organs.

Missions and charitable agencies which distribute second-hand toys among the children of the poor are requested to have such toys disinfected before they are given away, since some of them may have been used by children suffering from infectious diseases.

It should also be remembered that many children attend school poorly clad and that a gift of clothing would serve a better purpose than toys.

Health Resolutions for the New Year

WHEREAS one third of all the deaths occurring during the year were due to heart disease, pneumonia and tuberculosis, most of which could have been avoided or, at least, deferred, and

Whereas sickness and pestilence can largely be abated by cleanliness, fresh air, good food and attention to the common sense laws of personal hygiene, and

Whereas disease germs have little or no opportunity to grow or produce their poisons in a healthy body which closes all avenues of invasion, and

Whereas the promotion and preservation of the public health are important functions of the Government, and

Whereas good health is the very foundation of progress, efficiency, prosperity and happiness, and

Whereas the public health is a purchasable commodity and personal health is property which can be held in safe keeping,

Be it Resolved, That the public be urged to adopt the following:

To avoid excesses which tend to depress the vitality and encourage the invasion of disease.

To adopt moderation in all things, more especially as applied to foods and drinks.

To keep regular habits.

To sleep eight hours each day.

To exercise at regular intervals.

To observe the general laws of personal hygiene.

To go outdoors as much as possible.

To ventilate the home, office and workshop in order to insure comfort, ease and healthful surroundings.

To avoid places of assembly which are poorly ventilated and other overcrowded gatherings.

To protect others from communicable diseases by avoiding expectoration on the sidewalks and in public places and by using the handkerchief when coughing or sneezing.

To keep each and every foregoing resolution.

PART IV

MISCELLANEOUS TOPICS

Health Day and its Significance

THE preservation of the national health is a patriotic duty. This statement was made by one of our leading statesmen ten years ago. Today its significance is fully appreciated.

Health organizations have united throughout the country for the purpose of assisting the Federal authorities in the abatement of disease and the promotion of the public health. A special day is being set aside each year, known as "Health Day" for the purpose of emphasizing the importance of good health. There is need, however, of co-operation of each and every citizen, old and young, in this most important effort to improve the physical well-being of the country.

Our first aim is to impress upon the minds of the younger and older school children the value of a well developed body and mind, the importance of proper muscular physique and the advantages of early correction of physical defects. A sound and healthy school population will be the nucleus of an adult population of great vital power.

Sedentary life among our older men and women has reduced to a certain extent their resistance to endurance and hardships. Those who have visited the countries abroad during the World War have impressed upon us the necessity of improved physique among persons of middle age whose services in the field have been valuable because of their mature judgment. A more active outdoor life is, therefore, urged for those of mature age.

The Prevention of Physical Deformities a Vital Health Problem

A REPORT of the United States Bureau of Census shows that over 53,000 infants died in this country in 1914 from debility and deformities which were manifested at the time of birth. These fatalities comprised 6 per cent. of the total number of deaths from all causes. While these figures are apparently alarming, they only represent the smaller proportion of the number of physically deformed children who live on in spite of their incapacities and form the basis of our enormous human scrap heap which sooner or later becomes a costly charge to the nation and a burden to the normal, productive and progressive human stock.

The savages solved the problem of the physically unfit by allowing nature to determine the survival of the fittest. In this civilized age, however, we must resort to more humane, rational and more effective means of preventing the production of crippled and physically hampered offspring. Here again a campaign of education directed particularly to the young men and women who are to be the prospective fathers and mothers of the coming generation should be the means of attacking the problem. The dangers of venereal disease and the hereditary influence of tuberculosis on the physical make up and power of resistance of children whose parents are so infected should be subjects for discussion. Club foot, hunchback, knock knee, bowlegs, distortion of the shape of the head, tubercular spine, hip joint disease and the various other abnormalities of the bony framework are defects which can, in most cases, be prevented. Injuries to the expectant mother and delay in securing the services of a physician during the confined period are all factors which may enter into the dominant causes of physical abnormalities of the newborn.

The necessity of having early attention paid to apparent defects of the child should also be impressed upon the young parent. Ofttimes children are permitted to reach adult life without

any medical attention, when the possibilities for a correction have probably passed.

Persons who are knowingly infected with disease and thus capable of transmitting hereditary influences owe it to themselves and to the human race to forego the right of parentage. Control of the feebleminded should be so exercised as to prevent the production of a like offspring.

Furthermore the new act of legislation which compensates the workmen for injuries incurred in the line of duty and that which aims to protect children from dangerous occupations have caused employers to engage only those physically fit and in good health. Debarment from employment of the cripple other than the war cripple, the deformed and the physically unfit makes the burden of an increasing human scrap heap more evident.

It is a better plan to aim to prevent these deformities than to seek means of supporting the unfit and a campaign of education will have more effect than any legislation which might be suggested.

Health of Women Wage Earners

THE opportunities in the industrial field for women have been so great that large numbers have undertaken pursuits of gainful employment. Thousands of women who, heretofore, have lived in idleness or were engaged in minor employments have joined the great army of workers in vital and important essentials of industry. The factory, the munition shop, the farm and the military service have found female labor an invaluable adjunct in maintaining their maximum output.

The change of life from the home to the workshop however demands that the woman worker keep in good health and guard herself against the invasion of disease. In many of our states labor laws have been enacted to protect the female wage earner from hazardous employments and have limited her working hours to preserve her physical strength.

We are accustomed to look upon women as the "weaker" sex but experiments conducted among the college women in one of our universities indicates that there is no difference in the muscular strength of men and women which is due to sex as such. The differences frequently found are attributable to the differences in the

use of muscles brought about by the conventional limitations of activity or by dress. Experience has amply demonstrated that women can perform services requiring great physical strength and can perform the same with efficiency. The question arises whether such employment may in any way injure or interfere with her normal physiological functions.

When employed under medical supervision, there is reason to believe that female employes are in no way incapacitated or subject to undue injury pecular to their sex. Married women however must be given special care and employment denied them for a certain period prior to the lying-in state and for a definite period during lactation.

Working girls are often subject to complaints peculiar to their sex which require the careful supervision of their personal hygiene and habits. Female wage earners are capable of great service when given rest periods during certain hours of the day and if permitted time for special outdoor exercise. Various establishments have already taken upon themselves the supervision of the health of these women wage earners as a part of their own responsibilities. Their protection from physical defects incident to employment is a valuable and essential public health measure.

Recreation and Health

THE value of recreation and play as a natural incentive toward sound physical development and good health is no longer a disputed fact. Every large city in this country has recognized the importance of providing spacious grounds and indoor facilities for free exercise of youth's greatest desire—entertainment and pleasure. The impulse to play is just as natural and essential as the desire to eat or sleep. Prior to the establishment of playgrounds and recreation centres, children created their own places of play in the streets, in the alleys, about corners, in cigar stores and pool rooms. Crime and vice were the only open avenues for the youth who, as it seems, were crowded out and forgotten in our rapid and endless progress of civilization.

We have learned, however, that the responsibility for wrong-doing among the boys and girls is not really theirs, but belongs to those who fail to provide for them safe, healthful and carefully supervised playgrounds for the outlet of their overflowing energies. A public playground takes care of that natural curiosity and disposition to play and do things, and exerts a beneficial effect not only upon character-building, but upon the moral and physical make-up of our youthful pop-

ulation. It teaches self-restraint, fair play and good judgment, all of which are essential qualities toward good citizenship.

The future welfare of our country depends upon the physical and mental education and moral character of our children of today. By teaching them fairness in play we are also teaching them fairness in war, with due respect to the rights of others. Such children are the men and women of tomorrow, who will insure the integrity of the home, the safety of the nation and the democracy of the world.

What Exercise and Recreation Mean to School Children*

THE great majority of people little realize what physical education means, not only in child life, but to the life of both men and women. During the war, officers in charge of training camps realized how much "setting up" exercises meant to the physical efficiency and stamina of the men, and so we, whether teachers or parents should look well to the physical education of the

* Courtesy of Violet Whittaker Mange, Principal of Municipal Recreation Centre, Bureau of Recreation, Philadelphia.

children, and here education is used with full emphasis.

To the school child exercise means only running, romping and playing games; but to trained workers, a specific course is mapped out with a view to bringing into play all the large groups of muscles and increasing organic vigor. Every child should take this training, and whenever possible the lesson should be given in the open air as its value is thus increased ten per cent. The lesson should consist of tactics, free hand drill, with arm and leg movements, trunk bending and twistings, ending with a good vigorous game.

This form of work can be made more or less attractive to the child, by the personality of the director, who in turn can urge the child to perform the exercises given on rising in the morning and before retiring. No vigorous exercise should be taken directly after eating a hearty meal, nor yet on an empty stomach, and it is always to be borne in mind that exercise is of little value unless systematically performed.

School children should be allowed a certain amount of free play on apparatus in the school yard or unsupervised games. This form of exercise may be best sought before the opening hour, and when practical, at intervals during the school

period, especially in the case of younger groups. During the morning session the physical director should supervise all games and exercises, putting the classes through the regularly worked out course of study, which beginning with the A, B, C of the work takes the child through, until each muscle has been so trained that upon reaching early man or womanhood we have an all around, sound physical development. After school hours the children should have competitive games and athletics, taught and coached by the instructor, so that the child leaves school in a vigorous physical condition, and happy frame of mind.

A child thus trained, and who later, of its own volition, continues to indulge in strenuous athletic games, can perform them as well as heavy apparatus work, with agility and lack of fatigue until after the age of fifty has been reached.

Another important feature of the physical director's task among school children, is corrective work; exercises being given largely for round shoulders, drooping of either shoulder, flat foot and constipation. The directions, written out, should be taken home by the children where the parents should insist that they be faithfully followed.

No thought of exercise may be held that does not include walking and swimming, and none is

more generally beneficial. No recreation, despite the form it may take is real unless it means mental stimulation, rest to the nervous system and general relaxation.

As all education is only a means of fitting one to meet all conditions of life, making for clear judgments and bringing out the best in each; it can readily be seen how great an opportunity the physical director has not only to develop a strong healthy body, but to bring forth such traits as self-control, determination, loyalty, unselfishness, fair play and leadership, all of which characteristics can be taught through games and athletics. Therefore these habits are absorbed unconsciously in childhood through this play method, and later produce men and women of character who will stick to the ideal no matter what pressure may be brought to bear upon them.

See that YOUR children have physical education.

Exercise and Recreation for the Busy Man or Woman*

THE adult question is one of the big problems that confronts the recreation leader. How to attract the busy man and woman to any organized form of exercise is the big question, for there are so many side lights to entice in any large city. However, let us suggest first something for men, dividing them into the sedentary worker, and the man whose business keeps him on the jump all day.

It is fair to suppose that both these types had no physical education in childhood, for this is a comparatively new phase of school life, therefore their muscles are untrained, developed perhaps but not scientifically so.

The active man is naturally more vigorous, his muscles are in better tune, and he could, because of this, accomplish more, make more progress in organized gymnastic work, than the sedentary or less active man. Usually, however, this form of recreational exercise does not make a strong enough appeal. He prefers no set form of work, and if he does go to a gymnasium he

* Courtesy of Violet Whittaker Mange, Principal of Municipal Recreation Centre, Bureau of Recreation, Philadelphia.

may do a little work on the apparatus, run a little, play some short snappy game, and then enjoy taking a shower. Usually it is best to offer men of this type a game of pool, a little "bout," or seasonable conditions permitting, a game of tennis or a swim.

Recreation centers provide all the facilities whereby these activities are made possible; trained workers are provided, social gatherings of all kinds are possible, dances are run, clubs organized and lectures from time to time are given. There is something for everybody.

As to the sedentary worker, his form of activity should be along formal gymnastic work, for the reason that the physical director will give just enough in a lesson to make the unused muscles relax, but not enough to overtax and cause fatigue. A man who sits at his desk all day needs some form of exercise to increase circulation and respiration, and often to reduce any surplus fat he might have acquired.

As to the question of exercise for women; almost any woman, no matter what her work, would be benefited by joining a "gym" class and going through the prescribed course of lessons covering a fall and winter term. It has been proven time and time again that if a young woman comes home from the mill, factory or

office awfully tired, an hour spent in the gymnasium will so change the thought current because of bodily activity of a different nature than she expended while at work, that the draggy, tired feeling entirely leaves her, and the full benefit of sleep will be obtained. Compare this form of recreation to an hour spent in the "movies."

Recreation is not recreation unless it makes for joyousness and really re-creates the person indulging in whatever form appeals to the particular personality.

Vacant Lots or Gardens

IN the last few years every effort has been made in the interest of food conservation and production, for the utilization of all vacant lots as gardens. Our efforts were not unrewarded for thousands of dollars worth of produce was gathered in our home-made gardens. The Government has advised that these back yard farms be continued as a measure of home economy. Health departments are interested in these produce gardens in that they occupy sites which might otherwise be breeding places for filth and disease.

Every vacant lot is potentially a dumping ground and a source of insanitary condition in the neighborhood where it is located. It is very tempting for residents to throw their refuse, empty boxes, bottles, tin cans and waste paper on neighborhood lots. These accumulations soon act as receptacles for rain which during warm weather are fertile breeding places for mosquitoes.

Furthermore, vacant lots which are unkept harbor weeds which in the spring and autumn are distributors of the pollen largely responsible for hay-fever. Mention is also made of the unsightliness of unused lots. The most feasible and practical way of ridding a city of these nuisances is to convert them into produce gardens.

The Vacant Lot Association in Philadelphia has accomplished a double purpose by its plan of distributing grounds and lots for the cultivation of table commodities. It furnishes healthy outdoor employment for the young and old and at the same time provides edibles to meet the family needs. What has been done by this organization can be done privately at home in back yards and on unused lots.

Much has been said about dirty and dusty streets. A large share of this nuisance originates in the empty lot and unclean back yards. By

utilizing every foot of available ground for the growth of garden products, flowers, plants and vegetables, we not only reduce the source of many insanitary conditions in the city, but furnish that little tint of green which makes for a city beautiful and a city healthful.

Fresh Air—A Germicide

AMONG the various agents employed to combat the infectious winter diseases, there is none better than fresh air. Sanitarians have taken advantage of this fact by advocating the free ventilation of the home, bedroom, theatre, street car and other public assemblies. The gathering of large numbers of persons indoors quickly vitiates the atmosphere with emanations from the bodies rendering the air more or less foul and favoring the dissemination of infectious germs by coughing, sneezing or expectoration. Free access of fresh air not only dilutes the contaminated atmosphere but actually destroys the active agents of disease.

Fresh air is nature's best germicide. In the treatment of tuberculosis, it is the best tonic known to medical science. At the Philadelphia

Hospital for Contagious Diseases, diphtheria cases do remarkably well when treated on the balconies in the open air. In fact all the infectious diseases make more speedy recoveries when patients are permitted to have a free circulation of air in the sick-room.

Following the quarantine for the various communicable diseases, public health officials are now relying upon free ventilation of the sick-room as a measure of terminal disinfection in preference to the use of chemical disinfectants. More especially is this true in cases of the minor infectious diseases.

During the winter months when the respiratory infections are at their height, the subject of ventilation should be considered as essential in the prevention of disease. In the office, workshop and factory adequate ventilation with free circulation of fresh air, renders the conditions healthier and more comfortable for the employes. Where fresh air is lacking, germs find fertile breeding places for growth and reproduction.

Plants which are kept indoors during the winter do not thrive very well in overheated places lacking free circulation of fresh air. Persons living under similar conditions cannot be expected to be hale and hardy. More especially is this true of children and young adults.

The very young and the aged are apt to stay within the home during the cold season and the approach of spring finds them pale, feeble looking, with an expression of sapped vitality. Old age and infancy do not require confinement to the constant indoor atmosphere during the winter months. On days when the weather is favorable, calm and pleasant, there is no better stimulus than the outside fresh air.

The body itself is largely made up of oxygen and nitrogen which are essential constituents of air. To replenish the body with these vital elements, it is necessary that every room used for human habitation be properly ventilated and that a reasonable part of the daily twenty-four hours be spent outdoors.

The Open Window Habit

WITH the approach of cold weather there is a tendency on the part of many to close down the windows. Drafts and chills are indeed uncomfortable and prejudicial to good health, but these can be avoided if the ventilation of the office, living room, and bedroom is properly regulated. Fresh air is nature's best germicide and in order

that it may be brought into use to its fullest extent, windows must be kept open or at least ventilators installed where healthful surroundings are desired.

More especially should the open window policy be carried out when the weather conditions are quite favorable. In office buildings, work rooms and in the schools it is advisable to thoroughly air the rooms during lunch hours or at a suitable period during the day by raising all the windows. By such procedure the stagnant atmosphere is thoroughly removed and the room filled with fresh, invigorating cold air.

In overcrowded assemblies and workshops, it is very difficult to obtain satisfactory ventilation. In such instances there should be measures for a constant inlet of air and a constant outlet or exhaust. A free and continued circulation of fresh air is essential to maintain a clean wholesome atmosphere indoors. In the case of amusement places, it is well to throw open the doors at the end of each performance in order to replace the foul air within.

More especially are we concerned with the ventilation at home. Very often when passing through the residential section of the city on a cold night, the windows are seen closed tightly; although a certain amount of ventilation takes

place between the shafts of the windows this is insufficient. The oxygen of the air is consumed by the occupants and the atmosphere adulterated by the exhaled breath. To secure the desired quantity of fresh air and oxygen, open the windows.

When the weather is cold and severe the windows need not be thrown open to the top, but sufficiently lowered from the top and raised from the bottom to admit a constant supply of fresh air. The amount of raising and lowering of windows, is regulated of course by the clemency of the weather.

The public should adopt the open window habit. The best way to avoid winter infections is by breathing fresh air. Pneumonia, tuberculosis and colds are bad air diseases. The open window policy will go a long way toward reducing their prevalence during the winter months.

Overcrowding in street cars is a menace to the public health because it encourages conditions which are conducive to the spread of disease. Coughing and sneezing are not infrequent in street cars and these acts tend to inject infectious material into the atmosphere which is breathed over and over again by others, thus exposing them to such infections as tuberculosis, influenza, tonsilitis, coryza or, in fact, any infectious disease.

Although street cars are provided with means of ventilation, these are not always used to advantage or properly supervised and frequently prove inadequate. Passengers are liable to raise or lower windows in the cars for their own comfort, but very often to the disadvantage or discomfort of others present. A proper and effective adjustment of the ventilation and the avoidance of overcrowding in street cars will greatly assist and thus protect the public from the possibility of the spread of disease.

Ventilate the Garage

THE attention of health officials has been called to a disease popularly named petromortis caused by the inhalation of exhaust fumes from gasoline engines. Gasoline poisoning or petrolitis is not a new disease but the publicity given to a number of deaths which have recently occurred from this cause has created the impression that this condition might be a new one. The extensive use of gasoline due to the rapid progress of the automobile has however increased the number of cases of gasoline poisoning and it is surprising that many more have not been

reported to the health authorities. It is very likely that many persons have experienced the effects of exhaust fumes from gasoline engines but since these were only temporary, no complaints were made to warrant a thorough investigation.

Poisoning by gasoline fumes was at one time a frequent occurrence among seamen on submarines when their power of locomotion depended upon gasoline. The men were often subject to fainting spells and extreme weakness occasioned by the inhalation of partly consumed gases and it became necessary at times to transfer those affected to other duties. New inventions on the undersea craft has practically eliminated this condition among the seamen. This same condition, however, now confronts those who are constantly working about automobiles and gasoline engines. Incomplete combustion of the gas allows noxious odors to fill the atmosphere which when inhaled give rise to headache, dizziness and if prolonged, even unconsciousness. This may occur more especially in small unventilated garages. When the engine of a machine is running it consumes the oxygen of the air and if the combustion is incomplete the poisonous gases fill the air. It is, therefore, essential that every workshop and garage have adequate means to

carry off the accumulated gases and to permit an adequate supply of fresh air. This should be especially considered when building repair shops and garages, particularly the portable kind.

Persons employed in this capacity should insist on the safety-first plan of sufficient ventilation to insure against sickness or accidental death from this entirely preventable cause.

The High Cost of Heating the Home

WHILE the authorities are making every effort to reduce the price of the most essential fuel product, housekeepers and janitors in our homes and apartment houses are wasting an unusual quantity of coal in the attempt to render the home and living quarters comfortable. On entering the average house during the cold season, one is immediately swept with a wave of hot, dry, stuffy, parched air which has been described by some writers as drier than the driest of deserts. Such a state of atmosphere is unfavorable to good health and, at present when coal is a costly household commodity it is an extravagance to waste it by using it haphazardly without

securing the greatest amount of fuel value in an intelligent way.

In order that the indoor atmosphere be comfortable and healthful, a certain proportion of moisture must be present. When heat is admitted to the office or living room, there is a tendency for the moisture to evaporate. On very cold days, added fuel to the fire seems to scorch the air, depriving it of the normal amount of humidity, rendering it rather dry. This atmosphere soon becomes uncomfortable because it causes an increased evaporation from our bodies, irritates the nose and throat and by reason of its dryness leads to the usual catarrhal condition common during the winter season.

The power of air to absorb and retain heat depends largely upon the amount of moisture or water vapor that it contains, and when indoor air lacks the proper amount of this moisture the temperature of the home or office must be maintained at a higher degree, to give the same sensation of warmth and comfort to our bodies, than is required with air containing a normal amount of moisture.

The thermometer should therefore always be the guide in determining the amount of heat supplied. If a temperature of 68 to 70° Fahrenheit in a heated room is uncomfortable and

chilly, more than likely the atmosphere does not contain a sufficient amount of moisture and the dry air is causing rapid evaporation of the normal body sweat, producing a sensation of cold. If such is the case, it is cheaper and better to add moisture to atmosphere than it is to add coal to the furnace. This is accomplished by maintaining a proper system of ventilation in home. In fact, no heating system is efficient unless it is combined with a proper system of ventilation which adds moisture to the dried air, carries away the contaminated atmosphere, and supplies fresh, healthy outdoor air.

The use of pans filled with water, and placed in the heated room and other such measures to supply the moisture have not proved sufficiently effective to produce the desired amount of comfort and ease. Of the various methods of adding moisture to the heated air, proper and sufficient ventilation holds first place. The ideal indoor conditions favorable to good health are a temperature of about 70° Fahrenheit and a relative humidity of 65 per cent.

Coal Gas Detrimental to Health

DURING severe cold weather, when stoves, furnaces and other heating devices are taxed to the limit in order to keep out the unwelcome chill and cold from the home, office and workshop, we are confronted with the danger of vitiating the atmosphere with unconsumed or incompletely burned gases which may escape from defective heating systems. Coal gas is the poison which we must guard against and which may ultimately result in serious illness if constantly inhaled. Fatalities are occasionally recorded from poisoning by this gas either accidentally from coal ranges, from leaky gas pipes or by premeditated design. Cases are on record in which tramps were known to have been killed by gas from large furnaces or lime kilns to which they had been attracted by their warmth and where they had fallen asleep.

When a mere trace of coal gas is present in the air we breathe, the poisonous effects upon the body are of course correspondingly mild, the degree of severity depending upon the degree of contamination of the air and the length of time that gas-poisoned air is inhaled. Obscure mental disturbances and even delirium may be the first prominent symptoms of poisoning. The usual

symptoms, however, of chronic poisoning from coal gas are headache, dizziness, sick stomach and even vomiting, throbbing of the temples, ringing in the ears, general lassitude and muscular weakness. Neuralgia symptoms are often manifest while anemia or impoverishment of the blood is usually a resulting condition.

Chronic poisoning from coal gas may occur in poorly ventilated living rooms, offices or workshops where coal or gas is used as fuel for heating purposes. It is generally some defect in the heating system which permits the escape of the poisonous gas. Where coal stoves, ranges or furnaces are used, it is usually a defective flue or poor draught or improperly regulated damper which are the sources of origin of the escape of gas into the room. It is therefore advisable that householders have defects of the heating apparatus adjusted, in order to insure safety to the occupants of the home.

Leaking gas fixtures are not only an expense because of waste of gas but are a serious menace to health. Gas jets should burn steadily without jumping and flaring; if they do not, they are allowing unburned gas to escape. Gas tubings, hot water heaters, gas lamps and other gas heating apparatus should always be kept in good order and free from leaks.

If several persons in the same house are suffering from symptoms previously outlined, there should be an immediate inspection of all fuel consuming devices in the home for the source of coal-gas poisoning.

Clean Streets Essential for a Clean Bill of Health

THE campaign for cleaner streets which is being conducted in all earnestness by all cities is a very important movement from the standpoint of public health. It has been recognized that street dust, especially in a large city, may be the distributing focus of dangerous disease germs, or at least so irritate the respiratory passages as to lower their resistance and thus predispose the nose, throat and lungs to infection. Fortunately, the natural elements, more particularly sunlight, kill many of the "flying" disease breeders before they are inhaled. Some few, however, maintain their vitality, and lodging in the eyes, give rise to various inflammatory conditions, or finding lodgment in the respiratory passages may cause serious damage.

The nuisance created by street dust can be largely abated by sprinkling and flushing the streets but these methods prove to be of only temporary value if rubbish, waste and house sweepings are permitted to be scattered by the winds from uncovered receptacles immediately after the streets are cleaned. Carelessness on the part of storekeepers and housekeepers is responsible for many of these nuisances which give the appearance of untidiness and uncleanliness on some of the highways.

Personal pride should command every householder to prevent or abate any disorder and untidiness on the street where he lives for its neatness generally gives an air of freshness, dignity and refinement to the dwellings facing it. Local business organizations can also do much toward urging the residents of their respective neighborhoods to co-operate with this plan to make our highways "spotless."

This display of cleanliness is not intended to be a temporary one, but should be continued throughout the year as an essential movement toward better sanitation and better health. The following is a sample resolution which might effectively be adopted by every board of health.

RESOLVED, That the Board of Health approves the following receptacles and methods of handling

garbage, ashes, rubbish, waste paper, and like refuse:

All receptacles for garbage shall be of metal. tightly made, and shall be covered with close-fitting covers.

Receptacles for ashes shall be substantial, tight containers, preferably of metal, and should not have a capacity of over five cubic feet; and they should not be filled higher than three inches from the top of the receptacles.

Rubbish, waste paper, and like refuse shall be securely bundled or placed in tight receptacles in such manner as to prevent them from causing a nuisance upon the property or upon the street, and "contractors or others removing refuse or other waste shall so handle it as to prevent it from escaping or becoming a nuisance on or to other properties or the public street."

Eliminating the Dust Nuisance

HEALTH officials fully appreciate the fact that the generation of dust in large cities with the many industries and extensive highway traffic is inevitable. In spite of the various sources of dust there are means within our reach which could reduce this nuisance to a minimum,

at least to such an extent as to eliminate it as a serious menace to the public health.

Street dust can largely be controlled by daily flushing. The public officials in spite of the low water pressure have carried out this part of the health programme. There remains, however, the public sidewalks which must be kept clean and free from dust. Every householder and storekeeper is both morally and legally obligated to keep the walk in front of the house or store free from papers, rubbish, ashes, dirt or other refuse. Dry sweeping is absolutely forbidden. Sweeping the dust into the windows of neighbors and saturating the air with germs of disease, requiring passersby to hold the breath and blink the eyes, is an imposition upon the rights of others. The health menace of dry sweeping needs no explanation.

Furthermore the public can help to reduce the dust nuisance by depositing their house sweepings, dirt and refuse in receptacles of suitable structure as to avoid leakage, and in such amounts as to prevent spilling on the pavements and streets. The health laws should make this precaution mandatory. If every housekeeper abided by this ruling faithfully, there would be no need for placing a threatening club in the hands of every police officer.

The careless public must learn to be more careful. Persons in the habit of throwing things into the street. must be broken of the habit. Promiscuous spitters must use their handkerchiefs.

Safety on the Streets

EACH year there are several hundred deaths from moving vehicles in each of the larger cities, a death toll greater than that of typhoid fever and scarlet fever combined. Although this subject is not strictly a health matter, nevertheless, anything which increases the death rate in any community is of interest to the Department of Health. Opportunity is, therefore, taken to warn pedestrians and drivers of vehicles against the danger of accidents. While many fatalities are due to reckless driving, by far the greater number are due to carelessness and thoughtlessness on the part of pedestrians when crossing the streets. Moving vehicles should always be given the right of way, but not infrequently we see persons run directly in their path.

The warning cannot be made too strenuously against the foolish practice of running in front of street cars after alighting, as there is always

danger from some vehicle approaching in the opposite direction.

Children are frequent victims of accidents by moving vehicles. It is, therefore, the duty of parents to forbid them to play in the streets and to caution them against the dangerous practice of catching on behind street cars, auto trucks, ice wagons or of holding on to moving vehicles while skating or cycling. They should be taught not to cross the street in the middle of the block but only at the regular street crossings. Cities might well adopt "playstreets" where traffic is suspended and where children might play to their hearts' content, especially in districts where playgrounds are not provided.

It seems reasonable also that drivers of motor vehicles should be required to pass a suitable physical examination with particular reference to their vision and hearing. A technical examination to determine their proficiency in running a motor driven vehicle is also in order. This should also apply to motorcyclists who, by their reckless and daring coasting between and about other moving vehicles, are responsible for many avoidable accidents. New Jersey has already adopted the plan of physical and technical examination of drivers of motor driven vehicles to safeguard the public from accidents.

Drivers will avoid many accidents by lessening the speed at all street crossings. They should abolish the practice of crossing the path of approaching street cars or of speeding past the automobile just ahead. Furthermore, the overturning of automobiles will be less frequent if competent drivers are at the wheels.

Particular caution should be exercised at railway crossings, where accidents often result from carelessness or failure on the part of drivers to heed warning gongs and whistles.

The following is a list of rules adopted by the Safety-First League of Philadelphia, concerning children especially:—

1. Always go to the main street crossing before you cross the street.

2. Before crossing the street—STOP! Look in both directions.

3. When crossing in back of vehicles—LOOK! See what is coming the other way.

4. Trolley bells and motor horns mean danger. LISTEN! for them.

5. Always find a safe place for play—the streets are never safe.

6. Keep off the back of moving vehicles.

7. Teach the younger children the Safety-First way.

Occupation and Disease

IT has long been recognized that the health of persons engaged in certain occupations may at some time or other become directly or indirectly affected as the result of such vocation. Persons who work in extremes of heat or are constantly exposed to the influence of poisonous gases or irritating dusts may suffer such physical injury as to predispose them to disease or to cause more or less permanent debility. Thus tuberculosis, anthrax, metallic poisoning, skin disease, impaired vision and a host of other defects may result from lack of proper sanitary supervision in work shops. The subject of occupational diseases is, therefore, an important one as a public health problem and deserves consideration, not only by the health officials but by employers of labor.

The enforcement of the Workmen's Compensation Act, provides financial aid for the worker injured in the course of his employment, but the person who develops any chronic ailment as the result of his vocation, must sustain the loss incurred thereby, while his dependents must seek other means of support. It is hoped that in the near

future, occupational disease may also be classified as an injury and receive like consideration for compensation. In the meanwhile, employers should use every means to safeguard the health of workers. Preventive devices and improved machinery will materially reduce the quantity of dust and aid materially in lessening the contamination of the atmosphere. Certain dusty operations could be conveniently confined in hoods or in especially constructed cabinets in order to confine the dust and to protect the workers nearby. If these means cannot be adopted, the number of persons exposed should be reduced to a minimum.

Where poisonous gases and fumes are used, employes should be particularly protected from their harmful influence. Among the various substances which may affect workers are arsenic, benzine, benzol, carbon bisulphide, brass, carbon monoxide, compressed air, dinitrobenzine, mercury, naphtha, natural gas, phosphorus, turpentine and wood alcohol.

A profitable lesson may be learned from some of the large industrial plants which have already made a minute study of the protection of employes, and have gone so far as to furnish rest rooms, reading rooms, gymnasiums and athletic fields for their use during spare moments.

Prevention of Industrial Accidents

OVER one quarter of a million accidents occur in Pennsylvania every year, 10 per cent. of which are fatal, while a large proportion result in total incapacity or partial disability.

The Department of Labor and Industry of Pennsylvania reports yearly over 20,000 accidents to the eyes, of which nearly 350 have resulted in total blindness. It is believed that this number, however, is far below the actual number of cases since many injuries to the eyes are not recorded. In one hospital in Philadelphia over 4000 eye injuries are treated annually. If this number is used as a basis for computing the total injuries in all the hospitals treating accidents to the eyes, it is self evident that the State figures will be greatly increased.

The important point which we desire to emphasize is that a large proportion of these accidents are preventable. Both life and limb can be saved by exercising a little care, good judgment and discretion when engaged in industries where accidents are likely to happen. The loss of nearly $8,000,000 in wages and over 3,000,000 working days every year in this State may be counted in the waste of industry which could largely be avoided.

Employers have learned the advantages of providing safety devices on machinery and of instituting educational campaigns, warning the men against the dangers of carelessness which may lead to more or less serious accidents.

Of great importance is the protection of the eyes against injuries. Trivial accidents to the organs of sight may result in total blindness or in serious impairment of vision. Such occupations as chopping, grinding and blasting, riveting, working under intense light and heat or with molten metal and acids predisposes to injuries which may prove very serious. The proper adjustment of goggles and their constant use is, therefore, essential in such industries. Mushroomed tools* are also the source of injuries to the eye sight which are entirely avoidable. Tools of this kind should be tabooed among employes.

Under the Workmen's Compensation Act, employers are responsible for injuries to employes but such compensation does not really pay for the suffering and pain endured or for the invalidity which deprives the individual of competition with his fellow men.

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* Mushroomed tools are those with heads which are spread out as the result of constant hammering. The head of a hammer may be mushroomed by frequent use, in which case the overhanging edges may be easily broken off as chips.

Foot Strain and its Relation to Health

THERE is probably no other complaint so universal and so generally talked about as sore feet. This disease has its origin with the adoption of the custom of wearing shoes which through ages have changed in shape, manner of manufacture and in style and have accordingly caused more or less irregularities of the feet. Not only is this a problem among civilians but also among the military ranks where foot troubles form a large percentage of the physical surveys from service.

Tired, aching, burning and painful feet are very often the cause of a general systemic depression of vitality. Occupations requiring one to stand on the feet constantly and for a great length of time are responsible for a large proportion of these complaints, and ill-fitting footwear exaggerates the tendency toward foot troubles.

It is commonly believed that all painful feet are the result of fallen arches. This is by no means true because many flat feet are not painful and many painful feet are quite normal in shape. Tight shoes have their detrimental effects but are often unjustly blamed for other defects.

The heel of the shoe plays an important part in the maintenance of the normal contour of the foot. Its original purpose was to keep the back part of the shoe out of the mud, but now grade, form and style seem to be its function. When the heel reaches such a height that the weight of the body is supported by other than the normal parts of the foot, then we are confronted with a multitude of complaints from sore feet.

Proper shoes are therefore essential for the proper function of the feet. To designate any particular shape, quality or make of shoe would be folly, for every foot requires its individual shoe. All that can be recommended is that such shoes should be selected which give the greatest amount of comfort and ease.

More especially is the subject of proper footwear essential to the business woman who is required to stand during the greater part of the working period. Complaints peculiar to her sex may have their origin from malposition of the pelvis caused by shoes which tend to throw the weight of the body forward. The general tired feeling often complained of by the shop girls at the end of the day's work may be attributed to foot-strain from poorly fitted shoes.

The remedy rests principally in the proper selection of shoes and in taking advantage of the

rest periods during working hours by sitting down. When complaints are continued in spite of these precautions, it is best to consult your family physician who will advise you as to the proper course to pursue.

Underweight and its Significance

THE body weight is the barometer of one's physical state of health. Excessive avoirdupois and underweight are both abnormal conditions which call for appropriate medical attention according to the individual case. The military authorities of all nations recognize the fact that persons who fail to meet the standard weight according to their age and height are unsuitable for a service which requires the highest type of physical qualifications.

Underweight is indicative of many abnormal factors. It may be a precursor of tuberculosis or a predominating symptom of cancer. It may point to some derangement of the digestive tract which interferes with the proper assimilation of food or it may be due to an unstable nervous system which indirectly influences the physical development. Irregular habits of living, ex-

cesses, improper housing and unsanitary industrial conditions are all intimately related to the overbalance of physical equilibrium resulting in loss of weight.

Every person whose weight is below normal should consult the family physician with the view of ascertaining the cause and manner of correcting this deficiency. There are many cases of underweight which are unattended with any visible or detectable physical disease. These are the cases which under properly regulated routine measures, respond to treatment. A change of environment, together with the administration of wholesome foods, very often bring about a rapid increase in the body weight. As an instance of this, we may cite the experience of our boys in military training, who invariably gain in weight during the first few months of service. The regulation of habits—early to bed and early to rise—good, wholesome, fresh and nourishing foods selected under expert supervision and the adequate medical attention given to the recruits, tend to cause a change in their physical conditions which are favorable to good health and good physique.

The discipline of military life, the setting up exercises and the carefully regulated routine manner of living which are planned in detail and

carried out by experienced officers, all tend to bring about an improved physical state. It would certainly benefit many persons who are underweight to receive similar training.

Outdoor exercise, living in well ventilated homes, attention to personal hygiene, regulation of habits and the selection of proper foods are quite essential for those whose weight is below par. A progressive and continued decrease of weight is indicative of serious disease, for which medical attention is desired at once, for delay may help the disease to make advances too late for correction.

Cancer a Curable Disease

HEALTH authorities throughout the country have joined forces to combat the increasing prevalence and death rate from cancer. This disease alone causes 80,000 deaths in the United States each year. If this loss of life is repeated during the present year, one out of every eight deaths among women over the age of 40 and one out of every fourteen deaths among men of the same age will be due to cancer. These facts are surely sufficient evidence to show that this sub-

ject is not a trivial one but is of utmost importance to the individual, to the city, the state and the country at large.

The first and foremost fact which the public should know and remember is that cancer is curable. The old idea that this disease meant positive death no longer holds true in the light of advanced medical science; nor is it true that cancer is catching or contagious as some of the old folks would have us believe. Furthermore there should be no fear of inheriting this disease as the theory of heredity has not been conclusively shown. These assurances, therefore, place an entirely hopeful aspect upon the subject of cancer.

Although we do not know the actual cause of cancer we certainly know much about it. We know that the disease begins as a small growth such as a wart, mole, lump, scab or ulcer which is slow to heal. These may appear as innocent growths at first but repeated injury or constant irritation may cause them to take up an unusual activity especially in persons over 40 years of age. Jagged teeth may be the exciting cause of ulcers of the tongue ultimately resulting in cancer, while pipe smoking and cigar smoking may so irritate the lips that carcinomatous ulceration may result. Persons of middle age who suffer constantly from stomach disorders should regard

their symptoms with suspicion, as this organ is the most frequent site of cancer. Women, particularly, should consider every lump or growth on the breast as potentially malignant and seek the advice of the family physician at once.

It should also be known that there is but one positive cure for cancer, which is early and complete removal. Surgical treatment gives the best results provided it is done at the onset of the disease. Plasters and salves give only temporary relief. The patient is given a false sense of hope while the disease is actually taking deeper root. Internal medicines are worthless and a waste of time and money. Radium therapy, however, is valuable when used for superficial cancers of the skin, mucous membrane and certain tumors of the bone which are not very malignant, and only then when used by experienced physicians. The X-ray is a great aid in making the diagnosis of internal cancer and may be of benefit after surgical operation when a small portion of the tumor has been left behind. Fulguration, which is the process of destroying superficial growths by an electric spark is beneficial in selected cases and under expert handling.

The secret of the successful cure of cancer is to consult *your* family physician at the first sign of an unusual growth or lump upon the body.

Delay greatly reduces the chances of recovery while prompt treatment may prevent an avoidable death.

Sleep Essential to Good Health

IF it were possible to enact an eight hour sleeping law to balance the labor law of similar title, there would undoubtedly be a great improvement in the health, well-being and efficiency of the community. Cheating the body of its natural period of rest and comfort to procure a little more entertainment in the wee hours of the morning is like driving a machine on a flat tire. It is absolutely impossible to maintain a good state of health if late hours are kept night after night, because the vital forces necessary to combat disease are reduced below par and the invading germs find a fertile soil for their development.

Sleep is a part of the daily necessities of life. It is the restorer and regenerator of physical and mental strength. Just as the lull in battle is the time apportioned to the clearance of waste and the advance of new troops for a fresh and renewed onslaught, so sleep permits the elimination of fatigue products and the reaccumulation of energy for the next day's work.

The greater part of the infant's life is spent in sleep, during which time the constructive forces are at work building up the tissues of the body and the process of development exceeds the destructive changes. In the adult, however, construction and destruction balance each other and any tendency to increase the latter over the former results in a reduction of bodily strength. It is, therefore, essential that every adult sleep at least eight hours each day in order to preserve his state of health.

People of neurotic tendency who are troubled with insomnia may be greatly improved by taking an occasional day off from their regular routine work and resting up in bed, thus permitting the elimination of the products of fatigue and nerve tire. The use of hypnotic drugs to induce sleep is severely condemned because of their habit forming nature; furthermore the sleep produced by them is unnatural and less effective than normal sleep.

The tired, worn out laborer finds little trouble in falling to sleep at night, while the mental worker may have great difficulty in securing the needed rest. This is explained by the fact that physical work is essential to bring about the desired effect of sleep. The office worker and the busy merchant will therefore find that systematic,

daily exercise may be of great help in warding off insomnia.

The normal healthy person does not complain of great effort to rise in the morning, nor does he present a haggard tired look with bloodshot eyes and pale countenance. His appearance is fresh and bright, the day is started with an air of happiness and good cheer. He has a kind word for his friends and the day's labor goes on without any mishap. Just contrast this with the man who keeps late hours at night; he is aroused from his sleep with difficulty, eats but a scanty breakfast or none at all and is usually late at the office. He is irritable, peeved and cannot concentrate upon his work. The day is long and tiresome and nothing is accomplished satisfactorily.

We all recognize the importance of sufficient sleep, but it is not until the evil effects of inadequate rest become evident that effort is made to adjust the deficiency. Offenders of the eight hour sleeping law should therefore try to make up the sleep lost through careless habits. There is no greater remedy than the rest which sleep brings. It is a healer of all physical and mental troubles and is the physician's best remedy in the treatment of disease. If every member of each household would abide by the eight hour sleeping

law, there would be less sickness, more happiness, more glad "Pollyannas" while efficiency and well-being would prevail.

Proper Winter Clothing and its Health Aspects

IN attempting to keep out the cold and confine the body heat to insure comfort and ease, we often overburden ourselves with clothes. It is not so much the quantity as the quality of materials used in the make-up of our garments which goes far to protect and preserve the normal function of the skin. Excessive and heavy weighted clothes not only cause a feeling of discomfort but predispose the body to the detrimental influences of sudden changes of temperature indoors and outdoors resulting in the common winter complaints of coughs, colds and pneumonia.

The skin is much more sensitive to heat and cold than readily believed, being abundantly supplied with bloodvessels which are under control of an intricate nervous mechanism called the vasomotor system. This nerve supply increases the flow of blood to the skin under the influence of heat by dilating the bloodvessels supplying it.

Cold, however, causes a contraction of the blood-vessels through this same vasomotor system and sends the blood to the deeper structure and internal organs. In this way the human temperature is regulated and the body protected from cold and excessive heat. Any interference with this heat regulating system may lead to deleterious effects upon the body. For this reason, it is desirable that the skin be protected by proper and sufficient clothing to preserve the normal functional activity of the skin.

The kind of material for underclothes has been the subject of much discussion from the standpoint of their relative merits to protect the body from cold and at the same time to permit the skin to carry on its respiratory function and that of eliminating the poisonous products of waste. Woolens, cotton, linen and silk all have their advantages and disadvantages and each may serve their purposes in the commercial field in the manufacture of clothes. Wool and cotton however are the most practical materials which are within reach of us all so far as value and usefulness are concerned. Wool readily absorbs the sweat of the body and permits a slow evaporation, preventing a rapid chilling of the body. Cotton, however, does not absorb as readily as wool, and moreover permits rapid evaporation

causing an uncomfortable chilly sensation. All-wool underclothes are not serviceable because of shrinkage after washing. A combination of wool and cotton therefore is best suited from a health standpoint and for practical use. Close fitting garments of loose texture impart a pleasing sense of warmth and at the same time permit the proper exchange of air which is so essential in maintaining the respiratory function of the skin.

Outer garments should be selected depending upon the kind of employment. Those engaged outdoors will of necessity choose clothing which will confine the body heat. Such clothes, however, need not be heavy or of tightly woven texture because the desired comfort can be obtained from light weight, loosely woven woolen outer garments. Those employed indoors should choose the lighter weight clothes to insure comfort and ease.

If more attention were paid to the kind of clothes, with style as a secondary consideration, it is likely that many of the respiratory diseases of winter would be prevented.

Stop That Noise!

NUMEROUS and repeated complaints are charged against disturbing noises in the evenings, more especially during sleeping hours. Such protests against unnecessary and preventable noises have always received the endorsement of health departments, since the abatement of these nuisances is essential to preserve the comfort and health of the residents of the community.

Persons who are nervous or who suffer from insomnia or neurasthenia are particularly affected by disturbing noises tending to reduce their state of health, while persons recovering from an illness may be made worse or their convalescence prolonged. Hospitals and schools are generally protected against noises caused by pedestrians, venders, street musicians or fast driving vehicles by laws prohibiting such nuisances.

Noises in the early morning hours by milkmen, bakers and garbage collectors are a source of great annoyance in the residential districts. Guests of hotels and apartment houses in the central section of cities complain that their sleep is disturbed by noises from automobile cutouts, loud blowing of horns and the loud crying of newspapers by newsboys. The annoyance should and can be stopped. The police in some

cities are instructed to warn all offenders and to arrest them if they persist. The loud klaxon horn should be used only as a warning of approach of a moving vehicle and not as a signal to the owner of a car that the chauffeur is ready for him or to attract someone's attention on the sidewalk or in a passing machine. The loud noise of the engine of a car which is at a standstill, and the odor of gasoline have been subjects of frequent complaint.

Neighborhood quarrels over the barking of dogs and the crowing of fowls result frequently in an appeal to the courts to abate such nuisances. The shouting of the ice man in the back alley on a Sunday morning when many people prefer to sleep later than on other days is a very unwelcome noise.

While no objection is made against the noise of horns, bells, sirens and whistles when used as danger signals by ambulances, patrols and fire engines, there is much objection to the unnecessary use of these alarms by the same vehicles when on unimportant duty. This also applies to the objectionable noises of whistles on the river craft.

We should further remember that there are thousands of night workers in every city, who must sleep during the daytime and, therefore,

deserve equal consideration. Of course, it is not possible to secure the calm and quiet of the country in large industrial cities, but every citizen has the right to complain when his personal rights are infringed upon and his sleep disturbed by the ceaseless clang of unnecessary noises.

Sanitary Barber Shops

IT is well recognized that the unclean barber shop may be the source of barber's itch, head lice, erysipelas, infections of the eye and various skin diseases. The adoption of legislation which aims to eliminate this source of infection is surely in order and should be earnestly encouraged.

The public has learned the importance of personal hygiene and is now demanding that every possible sanitary measure be adopted for the preservation and promotion of the public health. Barbers desiring favored patronage should, therefore, aim to conduct their shops in a clean and orderly manner and should always maintain a high standard of efficiency in their sanitary management. As a guide to barbers who desire to lead this movement for cleaner and better service, the following rules are advocated for adoption:

Barbers should have good personal habits, keep their persons clean at all times and their breath free from odor. The hands should be washed after each patron.

Barbers suffering from a communicable disease should not be employed.

A clean towel must be used for each patron, and should be laundered after each individual use.

Patrons should be encouraged to furnish their own shaving mugs and brushes.

Common shaving cups and brushes should be thoroughly cleansed after each use. The use of shaving powder in the shops would eliminate the common mug.

Hair brushes and combs should be cleansed after each use and then placed in a formaldehyde sterilizer which should be provided in every shop.

Razors, shears, scissors, clippers and tweezers should be sterilized after each use by immersion in boiling water.

Powder puffs, sponges and finger bowls should be barred and the individual towel used in their stead.

Electric massage brushes should be sterilized after each use.

The common cosmetic stick should be tabooed.

Bleeding can be stopped by dipping a cotton tipped tooth pick in a solution of adrenalin chloride or iron styptic. Alum should only be used in powder form.

Soiled towels and shaving paper should be deposited in closed receptacles.

Head rests of chairs should be provided with a clean piece of tissue paper after each patron; this can readily be accomplished by the adjustment of a suitable paper roll

The wash bowl should be kept scrupulously clean.

Patrons with skin diseases or visible eruptions should either be refused service or the tools thoroughly disinfected after use.

Barbers are cautioned against misbranding their tonics or refilling old bottles with substitutes.

In the choice of barber shops the public should be guided by general observation of the place. By shunning the ill kept shop, you will encourage barbers to adopt the measures as advocated and thus insure your own protection from avoidable infections.

Sanitation of Swimming Pools

THE popularity of the indoor swimming pool has created a demand for protection from infectious diseases which may be contracted in poorly supervised bathing houses. Investigation of the swimming pools in some of the larger universities shows that infectious colds, typhoid fever, diarrhea, skin diseases, and infections of the ear and eyes may occur when proper sanitary measures are not provided.

A large number of bathers in one pool will certainly contaminate the water with the waste of the body. The degree of contamination will depend, of course, upon the freshness of the water supply and the number of bathers. If the water is permitted to be used repeatedly without clarification, filtration or dilution by a fresh supply, the danger of carrying infection to the bathers becomes apparent.

Only a few years ago, there appeared a large number of patients at a hospital in Philadelphia for treatment of eye infections, contracted at a prominent swimming pool. Immediate measures of control were necessary to curtail this epidemic. Not infrequently we encounter colds among bathers who have contracted their infections at a public or private swimming pool. Every effort

should, therefore, be made by managers of these bathing places to ascertain the sanitary condition of the pools for the protection of the public.

Many places require a shower bath to be taken, accompanied by a soap rub before entering the pool. This will remove the superficial skin excretions and lessen the contamination of water.

Others require a careful physical inspection of bathers to detect any visible communicable disease.

During the summer months, when swimming pools are generally crowded, the water becomes clouded very rapidly. The addition of an effective chemical disinfectant, such as chloride of lime, therefore, becomes necessary to reduce the turbidity and to render the water comparatively free from infectious germs. If the pools were also emptied, cleaned and refilled every day, the chances of infection would practically be eliminated; but, owing to the expense attached to refilling spacious tanks, some method of filtration or chemical disinfection is necessary.

Bathers should be especially cautioned about expectoration into the pool. The danger of such a practice becomes readily apparent. It often becomes necessary for bathers to expectorate when water is taken in the mouth. For this purpose, a trough should be provided, surrounding the

pool into which the bathers may spit and which may also be used to catch the wash water from the floor about the pool. No effort should be lost in adopting every measure to safeguard the public health by keeping the swimming pools clean and free from contamination.

Home Sanitation

ALL efforts to improve the health of persons by attention to personal hygiene will be of no avail if such persons return to live in homes which are insanitary.

The following may be considered adequate requirements for proper sanitation of the home:

Every home should have an adequate water supply to meet its needs for cleaning and bathing purposes.

The plumbing in the house should be in good condition at all times. Leaking pipes should be repaired immediately. Dampness of the cellar may be due to leaks hidden in dark corners covered by discarded refuse.

Drainage pipes should be free from obstructions. Never throw sticks, stones, rags, pencils, brushes or other materials into the hopper, or

bath tub. These readily clog the pipes and give rise to insanitary nuisances.

Special attention should be paid to the kitchen sink. All wash waters should be strained before thrown into the sink, or solid particles picked out of the wash water before pouring. All pipes should be open and not hidden from view. Closets under sinks are frequently infested with vermin. The open way permits absolute cleanliness.

The cellar should be kept free from rubbish. All waste material should be discarded frequently and not allowed to accumulate. Wherever there is much refuse, rats, mice and vermin are sure to be found.

Don't forget the back yard. The garbage pail should be metal, water tight, and should always be covered. Ash receptacles should be made of material which is firm and will not permit the contents to fall out. Never overload the ash box. Waste paper and other rubbish should be properly bundled.

There should be plenty of room space for sleeping quarters. No more than two persons should occupy a bedroom ten feet wide, ten feet long and ten feet high. The window space should be at least one quarter of the floor space. It is a healthy habit to keep the bedroom windows open during sleeping hours. The windows may be

opened from the top and from the bottom, the amount of such opening depending on the weather. When it is very cold outdoors the windows can be raised and lowered only slightly but as the weather gets milder they should be opened fairly wide.

The kitchen or dining room should never be used as a bedroom, nor any other room which is not provided with sufficient window space for ventilation.

The bathroom should always be kept in a clean and orderly manner.

The roof of the house should be kept free from leaks. Immediate repairs are necessary when leaks occur.

In districts where the toilet facilities are outside the house, the water closets should be always kept clean and screened in the summer against flies.

In selecting your home always choose one which receives a maximum of sunshine and has plenty of window space. Dark alleys and courts should be avoided.

Disinfectants

ALL kinds of "so-called" disinfectants are on the market. The only kind of disinfectants which are valuable from the standpoint of the public health official are cleanliness, soap and water, fresh air and sunshine. A false impression has long existed that certain chemicals can kill the germs of disease and thus prevent the spread of infection. The only instance where this is true is the disinfection of all the body discharges from a patient ill with a communicable disease. This means the discharges from the nose, throat and lungs, from the kidneys and the bowels, and sometimes the sweat.

By disinfectants is implied agents, usually chemicals, used to kill disease germs. The term is further used in the sense of destroying organisms believed to exist in rooms, houses and buildings where there has been a communicable disease, or where conditions are such as to predispose to or favor the development of an infectious disease.

The common disinfectants are formaldehyde and sulphur. Various other chemicals classed in the trade as disinfectants are really antiseptics which are substances used to prevent the growth or inhibit the development of germs. Formalde-

hyde gas disinfection is still used by many health departments in homes following the severe contagious diseases as smallpox, scarlet fever, diphtheria, infantile paralysis, epidemic meningitis and others.

Burning sulphur is a good disinfectant in homes infested with rats, roaches and other vermin.

But these substances are gradually giving way to the simpler forms of disinfection which consist of complete cleanliness, washing down floors and wood work with hot water and soap suds and using the scrubbing brush vigorously. When carried out in addition to raising the windows for complete ventilation for a period of 24 hours and exposing all the contents of the room or house to the open air and sunlight, we may feel safe that good disinfection has taken place. In order to be still safer, a complete renovation of the sick-room, with a change of wall paper is all that can be desired in effective disinfection.

The use of chemical solutions in hoppers, in bathrooms, in garbage pails and in the kitchen sink give a false sense of security and are not necessary. Perfect cleanliness is better than the use of any chemicals.

The Common Drinking Cup, Towel, and Wash Rag

THE use of the common drinking cup and common towel has not yet been entirely abandoned. Health Departments warn against the dangers which lurk in the abuse of this sanitary principle. Although the majority of business places, offices, restaurants and public drink-ink places have adopted the use of sanitary cups, there are a few who have failed to carry out this hygienic requirement. It consequently remains for the public to demand the complete elimination of the disease-breeding drinking cup. The possibility of infection with tuberculosis, diphtheria, influenza and venereal disease through the agency of a common drinking utensil, is now accepted without dispute.

The public is also warned to avoid the common drinking ladles and tin cups which we sometimes see chained to the public drinking fountains and wells in parks and summer resorts. Children especially should be cautioned against their use. Patronage of street venders selling lemonade and other soft drinks should be discouraged because they do not usually have proper facilities for cleansing the glasses. Soda fountain dispensers,

restaurants and other public drinking places should be held strictly responsible for infractions of the law dealing with this matter. The Pennsylvania State Law reads as follows:

"Those responsible for establishing or conducting any public drinking places in the Commonwealth of Pennsylvania are hereby forbidden to furnish or permit others to furnish or keep any common drinking vessel for common use at any such drinking place provided this rule and regulation shall not preclude the use of vessels which are cleansed by washing after individual use. Public places within the meaning of this regulation shall include common carriers, private, public, parochial or Sunday Schools, industries, factories, theatres, shops, hotels, etc., etc."

Of no less importance is the common towel. It is the "mixing bowl" of dirt, germs and filth and is a fertile focus of distribution of disease. Sore eyes, skin affections and venereal disease may be contracted through this breach of personal hygiene. In large industrial establishments, where the supply of individual toweling would entail a large cost to employers, this problem has been solved by requesting each employe to furnish his own towel.

Places which furnish towels should provide individual towels or paper toweling. The law

in this respect reads "No person or persons or corporation within the Commonwealth of Pennsylvania shall furnish for public use any towel unless such towel be laundered or discarded after each individual use."

Attention is also called to the indiscriminate use of the family wash rag. Although the likelihood of infection from this practise is slight, yet the danger is nevertheless present and no one can afford to take chances. No one would think of using another's tooth brush and the same should apply to the wash rag. Children who are provided with an individual face rag, learn the importance of personal hygiene in childhood and apply this principle to larger measures of sanitation in later life.

Preventive Inoculation

IN these days of advanced medical science we aim to prevent disease on a large scale by producing an active immunity in the body against the more common and serious diseases. Smallpox has been practically eliminated by thorough vaccination. Typhoid fever has ceased to be a serious menace in the military service by

reason of typhoid inoculation. Health officials are now planning to protect all school children against the ravages of diphtheria by a so-called toxin antitoxin injection. Some of our prominent experimentors are now recommending preventive inoculations against pneumonia which in large cities heads the mortality list.

Measures of sanitation have played an important part in the prevention of disease, but these have their limitation. If one city should adopt all the precautions necessary to safeguard the health of its residents and should the adjoining community ignore these same principles of prevention, disease will continue in the first community by reason of constant commercial intercourse with its neighbor. This is well explained by our increase in typhoid fever cases in the fall of each year. Residents of this city, traveling to other communities where public health measures are not stringent may become infected with disease which they bring to their homes where further infection takes place.

Because of this inequality in the sanitation in various cities and townships it has become necessary to adopt an added measure of precaution against disease, commonly called vaccination. This protection consists of the introduction into the body of small amounts of the poisons or

toxins of the specific diseases, for the purpose of producing in the blood of the individual active substances called antibodies. For each disease, however, there must be a specific vaccine or antitoxin. It, therefore, requires a special inoculation for every disease which we desire to prevent. Inasmuch as there are only a few diseases against which we have positive preventive inoculation, there is no reason why every individual who is required to travel from place to place should not avail himself of these protections.

The military authorities have recognized the extreme value of these vaccinations. Men congregated from all parts of the world in the cantonments are liable to bring disease with them and endanger the health of all the military forces. In actual military operation, contact with prisoners of war from infected districts may cause dissemination of disease in prison camps. Vaccination has worked wonders in reducing such liability of disease. We do not have, unfortunately, an antitoxin for every disease. Science, however, knows no limitations. It is probable that the next decade will bring forth many marvelous achievements along the lines of preventive inoculations against all infectious diseases.

Clean Up Week—A Health Measure

CLEAN Up Week always results in better and healthier surroundings during the heated season, reduces considerably the infant mortality and is of extreme value in bringing about a greater freedom from such annoying and disease bearing pests as flies and mosquitoes. People have been more or less "boxed up" in their homes during the winter months; rubbish and waste have accumulated, the carpets, mattings and draperies have collected dust and cellars have been the dumping heap for refuse. Clean Up Week, therefore, gives the housekeeper an opportunity to get rid of waste which would, if not removed, become a menace to the health of the occupants of the home and act as a breeding place for vermin and disease.

Start early and make a complete survey of the home. Clean it out from roof to cellar. Begin on the housetop; remove all debris, repair the leaks and if necessary apply a new coat of paint to the roof. Clean the attic of old, useless and dust collecting furniture, carpets, rags, trunks and other rubbish. Make a clean sweep upon the cobwebs, dark corners and dust laden picture frames. Open the windows and let the sunshine in, for it is nature's best germicide.

Carpets, rugs and mattings should all be taken

up and thoroughly cleaned, and the floors and woodwork scrubbed. Soap, hot water and a little washing soda, and the scrub brush are the howitzers which can successfully combat the common enemy—dust. Invade every hiding place in the kitchen where filth may accumulate. Plug up the rat and mice holes; putty and paint the cracks where vermin may propagate.

The cellar should receive a special cleaning. A fresh coat of whitewash applied to the walls will add freshness and brightness to its appearance. Inspect the plumbing and keep the pipes clear of rubbish heaps. Notify the Division of Housing and Sanitation of leaks from neighboring premises which are injuring your property and endangering the health of your family.

Gather all the tin cans, discarded and broken bottles and boxes from the back yard and alley. Pull up the weeds and prepare the soil for the growth of flowers, plants and vegetables. The humblest home may be made attractive by a garden display, by climbing vines or by adorning the windows and porch with flower boxes. The greater the plant exhibit, the less will be the area for the accumulation for waste and refuse. Foliage adds beauty and cheerfulness to the home.

Do not throw the collected waste into the back alley or onto vacant lots to be scattered by

the wind. Put all the refuse in covered receptacles and then place these near the street curb on the regular collecting days to be gathered and carted away.

Diseases Transmitted by Domestic Animals

THE public seems to be little informed of the diseases that may be transmitted through the agency of domestic animals. People will shun places that are placarded for communicable diseases, but will thoughtlessly pet a cat or a dog that has come from such an infected home. Cats in particular are known to have transmitted whooping cough and diphtheria. Beware of the cat that sniffles.

Cases are on record in which diphtheria has been contracted from infected chickens and squabs and in like manner chickens have contracted diphtheria from human beings afflicted with this disease. A similar charge has been registered against canaries and parrots, but the evidence is not entirely convincing. If they are sick, however, they should be carefully watched.

Hydrophobia has resulted from the bites of cats, horses, cows, wolves and even skunks, but the bite of the dog is the chief source of rabies.

The rabid dog presents two kinds of madness; one in which the dog is quiet, drowsy and has progressive weakness and paralysis beginning in the hind legs, and neither attempts to bite nor run away. The excited form manifests itself in irritability, and the animal runs about frothing at the mouth, barking and snapping at every one and finally succumbs to physical exhaustion. When the throat muscles are paralyzed, the dog shows fear of water. The muzzling of all dogs will prevent the transmission of hydrophobia.

Tuberculosis is widespread in cattle and not uncommonly as many as 70 to 80 per cent. of the cows in a herd have been found to be infected. It is now conceded that man may become infected by bovine tuberculosis through the ingestion of raw milk or its products (butter and cheese) when derived from infected cows. Diseases or inflammation of the cow's udder, may contaminate the milk with septic germs, producing in man what is known as septic sore throat.

Typhoid fever and scarlet fever can be transmitted by infected milk that has been contaminated during the handling, and not as the result of these diseases in cattle. It is for this reason that the most Health Departments require the pasteurization of milk.

Glanders is a disease of horses affecting the

nose, glands of the mouth and neck, and finally extending to the lungs. Sometimes it manifests itself in the form of pustules over the chest. When the affected horse sneezes or coughs, a fine spray of the infecting material is distributed through the air and in this way man is infected. Although few cases occur in man, most of them are fatal.

While infection of man by the foot-and-mouth disease is greatly feared, only a few cases are on record, and they were of such a mild nature that the disease almost escaped notice. A few blisters under the tongue, which disappear in a few days, are the only manifestations of the disease in man. Pasteurizing the milk and cooking the meat will destroy the agent of infection. Transmission from one animal to another can only be prevented by killing the infected animals.

Trichiniasis is a parasitic disease caused in man by eating the uncooked meat of the hog. The trichina parasites pass from the intestines of man to the various muscles of the body where they live, thereby producing muscle pains and other symptoms resembling chronic rheumatism. The eating of raw meats should, therefore, be avoided.

Anthrax or wool-sorters disease is contracted from infected sheep and cattle by those who comb the wool and handle the hides. The disease

manifests itself in the form of a carbuncle on the hand, neck or face, or in the form of general blood poisoning. Comparatively few men contract anthrax, but in those who do the disease is a serious one. Anthrax in cattle may be prevented by vaccination.

Actinomycosis or lumpy jaw can be acquired by men from cattle. The infection is usually transmitted by the discharges from the mouth and nose of the infected animal. It manifests itself in man in the form of a chronic inflammation of the lungs. The spread of the disease is checked by destruction of the infected cattle.

Smallpox of cows is now a rare disease. The vaccine derived from the purposely inoculated cow, has worked marvels in protecting the world against smallpox.

Tapeworms result from ingestion of the uncooked meat of cattle, sheep, hogs and fish containing the larval or infant forms of these parasites. Tapeworms vary in size from a fraction of an inch to several yards in length. They live chiefly in the intestines of man. Other parasites may lodge in the liver, spleen and brain. Children may be affected with the larval form of tapeworms contracted by association with dogs.

Ringworm is frequently contracted from cats and dogs. Infection may arise by contact with a

diseased patch on these animals that has escaped notice.

Bubonic plague is carried by the rat, guinea pig, and ground squirrel and the disease is transmitted to man by means of fleas. Plague is a very serious disease and as such may be classed with smallpox. Killing the rats on shore and preventing their escape from all ships to the wharfs will prevent the introduction of this serious disease into our ports.

Tetanus or lock-jaw results from the infection of a punctured wound, cut, or vaccination wound, by dirt in or about stables, or by dirt where the dung of animals is used for fertilizing purposes. Frequently the puncture is caused by stepping on a rusty nail. The prevention of tetanus rests on the proper surgical care of infected wounds and the use of tetanus antitoxin.

Mediterranean fever may be contracted from the use of goats' milk. This disease is prevalent in Malta.

Regulating Rag Shops

ANOTHER advance made in the preservation of the public health is the regulation of places where rags, old paper and waste are bought, stored or sold. We are all familiar with

the sight of old rag shops which have carried on their business in old dilapidated buildings reeking with foul odor of waste, human and animal refuse and endangering life and property by fire and the health of residents adjoining.

All rag shops, second-hand paper shops and junk shops, which purchase, store or sell discarded wearing apparel, cloth, muslin, fabric, burlap or waste, or where such materials are washed or sorted, are required in many cities to obtain a license to conduct such business from the Board of Health. This makes it possible for the Health Department to keep a constant supervision over the sanitary condition of these places, preventing them from becoming public nuisances and from acting as distributing foci of disease and disease-breeding insects.

Wearing apparel offered for sale by such places must be thoroughly washed and disinfected. The reason for this is self-apparent, when we consider that clothing may be assembled from places where infectious and communicable diseases have prevailed. More especially is this true of tuberculosis and various skin diseases which may be transmitted by soiled clothing.

As a health measure, no building used for the storage, sorting or washing of waste materials can be used, in whole or in part, as a

dwelling, two-family dwelling, rooming house or tenement.

Many rag shops and junk shops have, in the past, been responsible for littering the streets in the immediate neighborhood with paper and waste which had not been properly baled or packed, and which were permitted to be blown about by the wind. The regulations provide that the public highway shall not be used for sorting or storage of such waste and that droppings from the same be avoided by packing and baling. This is one of the ways in which city officials hope to obtain cleaner streets.

As a measure of protection against fire there should be no communication between a garage and any building used for the storage of rags, papers and waste, nor should any garage be used for the storage of such materials.

Co-operation of the public is earnestly requested to maintain these places in a clean and orderly manner.

Sewage Disposal

THE disposal of fluid waste from homes, business and industrial plants which comprises all materials carried away by the waste pipes is a health matter. These fluid wastes

which include human excreta must be so disposed of as not to contaminate our fresh water supplies. What is commonly known as sewer pipes consist of huge pipes sometimes very large in calibre to carry away the fluid waste gathered from all dwellings, and buildings. These sewer pipes empty in some stream which is not used as a source of water supply. If the stream is used, the sewerage is emptied far away from the supply intake. In other words the sewerage is so well diluted before it reaches the intake for fresh water supply that it is comparatively harmless.

In some places there is a separate sewer for the rain water which runs off the streets, and a separate one for the fluid wastes from homes and buildings. The combined system of taking all wastes is in common use.

Small localities dispose of their sewage by passing it into closed tanks where the wastes digest themselves being confined from contact with the air. These are called digestion tanks. Some places treat the sewage with chemicals to render it harmless.

Refuse Disposal

AMONG the things which a city or community must dispose of to prevent disease are garbage, ashes, rubbish, street sweepings, manure, and dead animals. One of the safest ways of getting rid of these materials is by burning. This method is used largely abroad. All waste is collected together and burned. The American system is different. Each of these refuse materials is collected and carted away separately and then either burned or reduced. By reduction is meant that garbage for instance is tanked and boiled, the various ingredients separated by compression and the byproducts such as grease, chemicals and "tankage" are used respectively for soaps and for fertilizers.

Ashes are commonly used for filling in ground. Rubbish is sorted for valuable metals, tins and paper and then burned.

Garbage is sometimes disposed of by feeding the hogs. In such instances the piggeries must be kept in a clean and sanitary manner, away from the built-up sections of the cities. The chief objection to this method is that the feeding of hogs with garbage gives rise to objectionable odors and favors the breeding of flies. Proper methods of control however can render this objection void.

PART V

FOODS AND WATER

Lower Priced Foods With High Nutritive Value

IT may be interesting to know that a large variety of food products rich in nutritive value may be purchased at reasonable prices. For instance potatoes, our most widely used vegetable, have 1.8 per cent. of proteid, 0.1 per cent. of fat and 14.7 per cent. of sugars or carbohydrate. Rice on the other hand contains about five times as much of these food essentials and may be prepared in a variety of ways suitable to the appetite. Reference to the various cook books shows recipes for a number of dainty and palatable dishes of rice.

Onions which at times command a high price have only a small food value. This is also true of such vegetables as cabbage, lettuce and celery, the greater bulk of which is made up of water and cellulose. Far more valuable than these are

peas and beans which are rich in proteid and carbohydrate content.

Mush is also recommended as a substitute for the more expensive foodstuffs, for its nutritive value places it among the foremost nourishing table commodities.

As a suitable substitute for butter on your bread we may return to our childhood favorite—molasses, which is comparatively cheap and capable of producing abundant heat and energy.

Milk and cheese are within reach of us all and are very rich nutritious foods. Sour milk prepared especially as a table delicacy is a valuable and nourishing product. Sour cream, used in many ways by foreigners is also a palatable and heat generating food.

Among the various other commodities which have high food values and yet come within reach of all wage earners are cocoa, macaroni, oatmeal, dried fruits, canned salmon, mackerel and cod fish.

In recommending foods of low price and high nutritive value it must be remembered that palatability is a principle of dietetics which must not be overlooked. Foods must be prepared to appeal to the appetite, for there is a greater secretion of the digestive juices and metabolism (digestion) is enhanced when edibles are attractive and pleasing.

Nor is it the intention to request the housewife to reduce the variety of table delicacies, for a mixed diet is most desirable. When the same menu is repeated too often there is a tendency to lessen the appetite. While some foods may have relatively great heat producing value, they may contain a large proportion of indigestible products which have no food value, but which act as "fillers" or "roughage" tending to make up the bulk of food and acting as laxative agents upon the bowels, thus serving a valuable purpose.

The housewife should therefore remember the three essentials necessary for a well balanced diet if she desires to limit herself to the cheaper foods —palatability, variety and digestibility.

The following is a list of common foodstuffs and their relative nutritive values.

	Food Units
1 lb. potatoes,	370 "
1 lb. rice,	1610 "
1 lb. corn meal,	1680 "
1 lb. fish,	1000 "
1 lb. bread,	1215 "
1 lb. dried beans,	1820 "
1 pint milk,	320 "
2 eggs,	160 "
¼ lb. American cheese,	530 "
1 ounce butter,	250 "
½ pint molasses,	640 "
1 lb. apples (edible portion)	290 "
1 lb. bananas, " "	460 "
1 lb. oranges, " "	240 "

	Food Units
1 lb. onions, (edible portion)	220 "
1 lb. celery (exclusive of waste),	85 "
1 lb. cucumbers, " " "	80 "
1 lb. lettuce, " " "	90 "
1 lb. carrots, " " "	210 "
1 lb. cauliflower, " " "	140 "
1 lb. cabbage, " " "	145 "

Handling of Food and its Relation to the Public Health

CONTAMINATION of food through contact with unclean hands, street dust, flies and vermin is undoubtedly the source of many cases of disease. The protection of the public from this source of sickness is a very important problem, which must be solved not only by legislation but by awakening the public interest to the importance of personal cleanliness and the principles of sanitation. It is only then that the careless, unclean food handler will be boycotted and compelled to give up his business or to adopt the recognized sanitary methods. Investigations were conducted in various cities of foods exposed to street dust and it was found that some of the foodstuffs were so contaminated as to arouse anyone's sense of disgust.

There are health regulations in some cities which prohibit the sale of exposed fruits, vegetables and other articles of diet eaten uncooked unless they are thoroughly screened and protected from flies and unless they are on elevated stands 24 inches above the sidewalk and pavement. The approach of warm weather usually induces the establishment of many curb markets, when the above regulation should be strictly carried out, in order to lessen the danger of purchasing street dust with vegetables.

One of the greatest sanitary achievements brought about in Pennsylvania within the last few years has been the regulation of the milk supply. This product has for a long time been responsible for a large proportion of cases of typhoid fever, scarlet fever, epidemic sore throat and diarrheal troubles.

Dealers have recognized the importance of handling only clean, pure, wholesome milk, and have gained greater patronage and favor because of their attention to the minute and necessary details in the handling of this commodity. If the consumer does not exercise an equal amount of care in handling this product at home by preventing its contamination and spoiling, all the previous precautions taken by the dealer will prove valueless.

Health departments have corps of inspectors who are keeping constant vigilance over the sanitary condition of slaughter houses, storage houses, markets, shops and places where meats, poultry, fish, game and shell-fish are sold or prepared for use as food. In fact, these places are required to have a license in cities from the Board of Health to conduct their business. This requirement therefore acts as a stimulus to food dealers to maintain their places of business in a clean and sanitary manner.

The public health is further safeguarded in many States by a law which requires all employes in restaurants, hotels and dining cars to be examined twice annually for the presence of communicable diseases.

Thus it is seen that every effort is being made to protect the public from avoidable sickness through the careless handling of the food we eat; but in this connection, the co-operation of all food merchants is essential to bring about successful results.

A Plea for Sanitary Restaurants

IN order to obtain better sanitary conditions in public eating places and thus guard the health of the community, an appeal is made to each and every proprietor of the hotels, restaurants and drug stores, requesting that they co-operate with the health authorities in excluding from employment cooks, waiters, chambermaids, kitchen help and others who suffer from certain diseases and in making provisions for the sanitary conduct of restaurant eating utensils, drinking cups and wash rooms.

For the benefit of those who desire to secure public patronage by establishing the reputation of complying in all details with the recommendations of health authorities, the following measures are outlined for their guidance:

Restaurants should be provided with proper and ample kitchen facilities for washing and cleansing all kitchen utensils and with a proper supply of hot and cold water. Proprietors or persons in charge of public eating places should not use drinking vessels, dishes, spoons, knives, forks, finger bowls or other eating materials which have not been thoroughly cleansed with scalding water after each individual use. The kitchen and dining rooms should be kept in a

clean and orderly manner at all times, and measures should be taken to prevent nuisances created by the dissemination of odors, vapor and smoke. Air shafts, fans, forced air or other approved methods should be installed when necessary to control such nuisances.

All rooms used for cooking and preparing foodstuffs should have floors and side walls so constructed as to exclude vermin, rats and mice, and the plumbing should always be kept in good repair and free from leaks. Washrooms connected with restaurants for the use of patrons or employes should be provided with individual towels to be discarded or laundered after each use.

Proprietors of hotels and other public eating places should maintain a medical inspection of cooks, waiters, chambermaids and kitchen help for the purpose of excluding from employment those who are suffering from trachoma, active tuberculosis of the lungs, open skin tuberculosis, venereal disease, open external cancer, and barber's itch. Medical examination of these employes should be performed at least twice a year by a reputable physician and certificates of the physical examinations filed with the health department. Special care should be exercised by the medical examiner to bar typhoid carriers

from employment in such places, since contamination of the food may readily spread the disease to the patrons.

Proprietors will find it to their advantage to adopt the measures recommended, for public sentiment is strongly adverse to the patronage of unclean restaurants.

Care of Milk in the Home

GREAT efforts have been made by health departments to secure pure milk for the public. Rules and regulations have been formulated for the proper care and handling of the milk from the source of production until it reaches the consumer. It is at this juncture that the responsibility of the consumer begins, and it is his duty to continue this strict care so that the milk shall be kept pure until used.

It is, therefore, most important that the consumer shall co-operate with the health officials and the dealer, by taking proper care of the milk in the household.

It is just as necessary to keep the milk clean and cool at home as to request such care from the dealer. After pasteurization the dealer is re-

quired to cool the milk to 50° Fahrenheit and deliver it to the consumer within 24 hours. If the consumer does not exercise equal care to keep the milk cool until used, and allows it to stand in a warm room, germs will rapidly multiply in the milk.

Do not allow your bottle of fresh milk to remain on the door step too long in the morning, during the warm weather, as exposure to heat of the sun will favor the growth of bacteria. The bottle should be taken in at once and placed in the refrigerator. Milk should be placed in a separate compartment in the refrigerator and kept covered—as odors of meats and vegetables are readily absorbed by uncovered milk. The refrigerator itself should be free from odor and kept clean and well-drained. There should not be any direct connection between the drain pipe of the refrigerator and the sewer unless properly trapped. The food compartments of a refrigerator should be scalded at least once a week, with a hot solution of washing soda. A small amount of spilled milk and sour or uncovered foods will soon contaminate the refrigerator.

Keep the milk in the bottle until ready for use and then pour out only as much as is immediately required. Wipe the mouth of the bottle with a clean towel before removing the cap which

should then be carefully lifted and rinsed in clean running water before being replaced. If the cap is broken, place an inverted tumbler over the mouth of the bottle. Do not pour back into the bottle unused milk which has been exposed to the air or otherwise contaminated, as it will spoil the rest of the milk.

Household receptacles for milk must be kept scrupulously clean. After use these utensils should be rinsed, scalded and set away unwiped, bottom upwards, to dry, as they are kept in much better condition this way than when washed in dish water and wiped with the ordinary dish towel.

Scald the milk bottles before returning them to the dealer. After all the milky film has been removed by cold water, wash carefully in hot water and stand the bottle upside down in a clean place to dry. Insist that the milkman shall remove all bottles daily. Under no circumstances use milk bottles for turpentine, vinegar, kerosene, or for any liquid other than milk.

Tuberculosis, scarlet fever, diphtheria, typhoid fever, septic sore throat and infantile diarrhea can be caused by contaminated milk. If the dairyman or dealer should come in contact with these diseases, either in his own home or otherwise, his careless and improper handling of

the milk can pass the infection along. If there is a contagious disease in the home, the nurse should not handle the family milk. Health departments forbid the removal of milk bottles from such a house without a permit and then only after sterilization.

The germs of diphtheria and typhoid fever can be transmitted by so-called "carriers." Several cases of typhoid fever in New York have been traced to a cook called "Typhoid Mary," who contaminated food through the perspiration exuding from her fingers. Such an individual could readily infect the milk.

What the Public Should Know About Milk

VARIOUS names are used in connection with the sale of milk and its products, which may be confusing to the purchaser. Among the various products on the market are pasteurized, evaporated, condensed, desiccated, milk powder, skim milk and modified milk.

Pasteurized milk is a product which has been heated to 157° Fahrenheit for ten minutes or longer, whereby the activity of the bacteria is

very much diminshed or destroyed. Two processes of pasteurization are in common use. In the "holder" process the milk is held at 145° F. for thirty minutes. In the "flash" process the milk is heated to 160° F. and held at this temperature for thirty seconds to one minute and then quickly cooled. Practically 98 per cent. of the milk sold in the large cities is pasteurized. This procedure, when properly done, protects the consumer from infection with disease-breeding germs, protects the infants from bowel troubles and increases the keeping quality of the milk.

Evaporated or condensed milk is a concentrated form of milk in which the watery substance of the milk is largely removed. Before the enforcement of the pure food laws there were on the market many brands of the so-called "condensed cream," "evaporated cream" or "condensed milk," either with or without the addition of cane sugar, which were, in reality, only concentrated skimmed milk. At present the label on the can must correctly describe the contents. Canned milks have the advantage of being free from germs detrimental to health.

Desiccated milk is the product reduced to powdered form. When the proper amount of water is added to this dried milk, the mixture closely resembles ordinary milk, and is used by

bakers for many purposes where milk is required. Some of the powders on the market are dried and pulverized skimmed milk.

When fat is removed from whole milk either by hand or by a separator, the remaining product is called skimmed milk. It is an excellent food in spite of the absence of the fat, since there remain the proteids, sugar and mineral salts.

Adulterated milk is one to which water has been added, or from which the fat has been removed or where preservatives have been added. The fat contents of milk should be at least 3.25 per cent. and the total amount of solids, which includes proteids, fat, sugar and salts is 12 per cent.

In order to prevent the souring of milk, various chemicals used as adulterants are sometimes added. Among these substances are baking soda, boric acid, peroxide of hydrogen, and formalin. The use of these adulterants is illegal, where the milk is intended for human consumption.

The public should also be familiar with the types of cream upon the market. Two grades are recognized—"heavy," containing 25 to 30 per cent. fat, and "light" with 12 to 15 per cent. fat. Thin cream may be thickened with gelatine or sucrate of lime. When cream is subjected to a

high pressure in an apparatus called a homogenizer, the fat globules are disrupted and a homogeneous emulsion is formed. By this means a 16 per cent. cream acquires the body and texture of 20 to 25 per cent. cream. This change is physical, and as nothing has been added or subtracted, it cannot be said to be adulterated. It should, however, be called "homogenized cream."

Milk a Perfect Food

DRINK more milk! In spite of its increased cost, milk still remains one of the cheapest, most easily digested and most nourishing foods. With its other by-products, it comprises about one-sixth of all foods eaten by the average family. One glass of milk is equal in value to either:

Two large eggs.
A large serving of lean meat.
Two moderate sized potatoes.
Five tablespoonfuls of cooked cereal.
Three tablespoonfuls of boiled rice.
Two slices of bread.

This food product is generally considered a perfect food because it contains parts of all the different table commodities. It contains the pro-

tein found in meat, the fat in yolk of egg and in bacon, the sugar as contained in candies, desserts and table sugar, the salt as contained in mackerel and herring, and the water as obtained from the spigot. It also contains ferments which are very valuable in digestion, gases and antitoxins which are all important to the body. The average proportion of these constituents is as follows: Albumen 4½ per cent., butter fat 3½ per cent., sugar 4½ per cent., salt ¾ per cent., and 87 per cent. of water.

To be healthful and wholesome, however, milk must be clean and free from disease-breeding germs. Under usual circumstances milk contains many bacteria, but these are harmless and often beneficial. When in large numbers, they indicate that the milk has been imperfectly handled, that it is dirty or that it has not been kept at a sufficiently low temperature. The number of germs in milk is an index as to its sanitary quality. This determines the grade of milk, which is designated as pasteurized, certified, inspected and market milk. In some cities, milk is designated as A, B and C quality, depending upon the number of bacteria present.

Dirty milk, containing large numbers of bacteria, spoils readily through fermentation or putrefaction. The former is commonly called

souring, while the latter is a decomposition rendering it useless as food. Sour milk is not harmful and, in fact, may be beneficial. For grown people sour milk obtained from clean pure milk is just as nutritious and wholesome as fresh milk. The bacteria which cause it to become sour have a beneficial effect upon the digestive functions of the intestines.

Two and a half quarts of skim milk contain almost as much albumen and yield about the same amount of energy as a pound of beef. It must be obtained from pure milk in order to be a safe food.

Buttermilk is another valuable and wholesome by-product of milk, which has the food value of skim milk and the added advantage of milk acids.

Pure Water

BY pure water is meant water which is free from disease germs, is crystal clear, free from odor or taste, and is palatable. There are waters which are quite pure from the standpoint of freedom from disease organisms but are objectionable because they have an odor or a bad taste. Bad odors arise in water supplies secured from

streams which are frozen over for long periods, preventing the proper airing or oxidation of the water. The gases which arise from the decomposition of organic matter and from water plants are mixed with the water and are not allowed to be given off by the covering of ice. Again in the fall when the temperature of the surface of the water changes there is a circulation of water from the bottom to the top by reason of the differences in temperature of top water and bottom water. As the bottom water comes to the top it brings with it the odors of plants and decomposing matter.

In large cities the water supply is taken from neighboring streams and filtered by means of huge filter beds of sand. Some localities draw their water from great distances, from the mountains or from sunken wells.

If water is taken from rivers, such supply must be protected from contamination by waste products emptied into them from factories, various industries, or from sewers of neighboring towns.

Water may be purified by storing it in large tanks. The solid particles in it will settle to the bottom and the exposure to the sun and air gradually kill all the disease germs. It may also be treated by certain chemicals such as chlorine,

chlorinated lime, alum, ozone, and sulphate of iron. These processes when used alone are not as safe nor do they give as palatable water as when combined with a process of filtration.

The diseases commonly conveyed by impure water are typhoid fever, cholera, dysentery and diarrheal conditions. In some localities the water is said to convey goiter. When water pipes are not properly lined, or the water is treated by strong chemicals causing the lining of the pipes to be "eaten away" then lead poisoning may develop from drinking the water.

When away in the country where there is a pump supply such water is safe only if the well is protected from contamination from privy wells and from the surface dirt about it by proper concrete reinforcement.

Wherever the purity of the water is questionable it should be thoroughly boiled.

DISEASES CONVEYED BY ICE

Natural ice which is cut from streams and lakes which are contaminated by bacteria may convey typhoid fever and other intestinal disorders. Artificial ice made from filtered water is safe. Handling of ice by ice men may be a source of infection. Therefore all ice should be

thoroughly washed before it is used. It is safer to use cooled water than ice water obtained from melted ice.

Meat and Cattle Inspection

AS a safeguard to the public health, meats of all kinds, poultry and fish are subject to inspection, by health officials. The meat of cattle, sheep and hogs intended for shipment between the States must be passed upon by Federal government inspectors. Such inspection takes place before the cattle are killed and afterward. The inspector usually passes through the pens where the livestock is awaiting slaughter and picks out those which look sick as evidenced by drooping heads. The sick cattle are separated and isolated and are kept under observation and treatment.

Those which pass inspection are slaughtered. The head, lungs, liver and intestines are then examined for signs of tuberculosis and other diseases. When extensive lesions of tuberculosis are found the entire carcass is condemned, as unfit for human use. If tuberculosis is limited to certain parts of the body and is not extensive, then only that part of the carcass is condemned.

Beef and pork may also be condemned if they contain certain parasites because they may cause in man what is commonly called beef and pork tapeworms. Hog cholera is a cause for condemning hogs and swine.

Small slaughter houses which do not ship their meats out of the state are inspected by the local authorities. There are various laws which require the sanitary handling of slaughter places so that they may not be a nuisance to nearby residential districts.

Poultry and fish inspection are under jurisdiction of the local health officials. Live poultry is not subject to supervision. Killed poultry and fish must be fresh, of good color and free from odor of decomposition.

In Pennsylvania, meats, poultry, fish, butter and eggs must not be kept in cold storage houses longer than one year. It is believed that after this period they undergo decomposition when they are dangerous to public health. Some states do not limit the time of storage.

Every place selling or storing meats, poultry, fish or shell food is generally required by boards of health to secure a license. This permits the health officials to investigate the sanitary conditions of places where foods are kept or offered for sale.

PART VI

TALKS ABOUT INFANTS AND CHILDREN

Birth Registration an Important Subject

FEW people appreciate the importance of having the births of their children registered. In fact, a certificate is only found missing when the child, in after years, applies for a copy of the record to obtain certification of age for working papers or some legal matter.

During the World War many American born children of foreign parentage have applied to health departments for records of their birth to exempt them from service abroad. If these records are not on file, it is often impossible to prove their citizenship. Other advantages that might be mentioned by having a record of the birth on file are proof of legitimacy, identity, or in order to obtain inheritance. Many insurance companies and industrial plants now require some

official proof of the age or citizenship of those working for them. The question is so important that the births of all children should be registered and no parent should neglect to give his child the advantage of this—a part of his legal birthright.

Other legal matters for which a certified copy of a birth record is necessary may be quoted as follows:—Age for school admission, age for certain classes of employment, age of legal responsibility, age of consent, age of majority, age of differentiating juvenile from adult court cases, obtaining passports and various other matters for personal gain or protection.

To the community the advantages likewise are many. Proper birth rates, as well as the rates of infant deaths, are figured on the number of births reported. In this manner the Department of Health is able to direct its efforts to that part of the community where the greater number of these children die. In addition to this, the advantage for admission to school or the proper working age may be ascertained. This serves as a protection for the community and the employer, as well as for the child.

For any of these purposes a copy of the entire record of births "exactly as filed" may be obtained from the Division of Vital Statistics of the Health Department.

During the war period, the Navy Department required each applicant for service to verify his birth record. Too frequently it was found that no record of birth had ever been filed and this necessitated the applicant finding other evidence to prove his citizenship. All parents should investigate whether or not the births of their children are on record, and, if not, should take immediate steps toward having the births officially recorded.

Preventing Blindness Among Babies

IT is generally agreed by the medical profession that the eyes of every infant should be treated immediately after birth by the instillation of a suitable antiseptic solution as a preventive measure to guard against a very dangerous disease which is technically called ophthalmia neonatorum. This routine practice in every case is generally adopted and in some localities required by law because a large number of babies have been blinded as a result of a virulent infection of the eyes which sometimes occurs soon after birth. Physicians are in a position to know that blindness from this cause is entirely preventable, and they appeal to the parents of children to

regard sore eyes among infants with serious consideration.

The most impressive lesson of ignorance on this subject matter is learned when visiting the several schools for blind children where hundreds of bright, intelligent youngsters are taught to compete with those who have the advantage of the sense of sight. About 25 per cent. of the inmates of these schools have been blinded by babies' sore eyes. Every one of these misfortunes could have been avoided.

It is estimated that one out of every twelve persons among the blind population in this country can attribute his loss of sight to lack of care of the eyes at the time of birth. The amount of danger caused by such neglect is far beyond comparison to the slight effort of placing a few drops of medicine in the baby's eyes at birth.

Once there is an infection of the eyes, the damage done may seriously impair the vision in spite of active medical treatment. It is, therefore, essential to adopt adequate measures which will prevent any occurrence of the disease.

Some health departments furnish free of charge an antiseptic solution for the treatment of the eyes of every child immediately after it is born. If these drops were used in every case, it is believed that there would be a marked reduc-

tion in the number of inmates of our institutions for blind children which, at present, are "monuments" indicating neglect upon the part of an indifferent public.

Care of the Baby in Hot Weather

DON'T fail to protect the children from the effects of the heat.

DON'T take infants on shopping tours. They are more susceptible to the effects of heat than adults.

DON'T keep the baby on the top floor of the house if the first floor is cooler. The temperature in the shade outdoors is lower than the temperature inside the house.

DON'T keep the children in the kitchen where the humidity is greatly raised by the evaporation of water in cooking, washing and ironing.

DON'T forget that babies may die in twenty-four to forty-eight hours from the effects of the heat.

DON'T allow the children to be unnecessarily exposed to the direct rays of the sun. Permit them to play only in the shade.

DON'T forget that babies need more drinking water in hot weather than at any other time. Cooled water is better than ice water.

DON'T fail to bathe the child daily. It reduces the body temperature and induces the child to sleep.

DON'T burden the baby with many clothes. A clean diaper and a loose cotton slip are all that the infant needs and more clothes should be provided only when the weather gets colder.

DON'T forget that babies need plenty of sleep. Every baby needs twenty hours sleep daily during the first month and not less than sixteen hours daily up to the end of the first year. A clothes basket containing a mattress made of excelsior enclosed in a blanket makes a good crib for those who cannot afford a better one. Feather pillows should not be used in a crib or baby coach.

DON'T fail to protect the babies from the annoyance of flies and mosquitoes. These pests transmit diseases which often prove fatal, especially so during the hot spells.

Don't wean the baby during the hot weather except on the advice of a physician. Ten bottle-fed babies die to one that is breast-fed. Feed the baby at regular intervals. Improper feeding causes the greatest number of deaths from bowel troubles.

DON'T use soothing syrups to quiet the baby. If the baby has loose green passages from the bowels, it should receive immediate medical attention.

DON'T forget that babies need plenty of fresh air. Whenever convenient take them to the city parks and recreation piers but always have an extra wrap for them in case of sudden change of weather.

Care of the Baby During Cold Weather

THE increasing prevalence of pneumonia which has attracted the attention of the health officials during the past few years is not only conspicuous among adults but also among the infant population. Children of tender age are especially susceptible to the influences of cold weather and more so in times of epidemics of lung diseases. Each winter about 25 per cent. of the deaths from pneumonia occur among children under two years of age. This is sufficient convincing evidence of the fact that infant welfare work should not be confined only to the care of babies during the heated term but should be extended throughout the year. The prevention of

acute respiratory diseases among the infant population is by no means a small problem.

The prevalence of pneumonia, however, does not necessarily mean that babies of tender age should be closely huddled about the fireplace or confined in stuffy overheated rooms. Fresh air is just as essential to the growing child as to the adult if not more so. It therefore behooves parents to maintain a proper temperature in the bedroom of the infant to insure sufficient heat for comfort, and a proper supply of fresh air to keep the atmosphere comparatively free of infectious agents.

Dressing the baby according to the temperature of the day is another feature in the proper care of the infant which deserves the utmost detail consideration on the part of the mother. Soiled clothing remaining unchanged on the infant may predispose to chilling of the body.

Poorly fed babies are less resistant to the invasion of disease than the well-fed, robust, tenderly nursed child. Too often poverty is responsible for conditions of lowered resistance, more especially among the infant population. Although pneumonia is not particularly a poor man's disease, yet it takes its heaviest toll among those deprived of comforts and privileges through poor financial circumstances.

Another factor in the care of the baby is the use of home medications. No parent is capable of diagnosing the illness of his or her child and less fitted to prescribe for him. The baby's health cannot be found in the medicine bottle and the sooner the public recognizes the importance of intelligent and scientific care of the child's ailments by the trained and skilled physician, the better will be the infant's opportunity to combat the invasion of disease and to secure the proper treatment to avoid premature death.

Care of the Child During the Pre-school Age

MOST cities have made provision only for the care of babies under the age of two, and of children of school age, but for some reason or other, little attention has been paid to the health of the child from the time the visiting nurse discharges the mother and baby and the time the child goes to school. The absence of supervision of the child between the ages of two and five opens the way for an extensive field of activities which, if well directed, may prove very valuable in re-

ducing the huge mortality rate among young children.

It is during this age period that such communicable diseases as measles, mumps, chicken pox, scarlet fever, whooping cough and diphtheria are prevalent and especially dangerous. Furthermore, the diseases mentioned are very likely to be complicated by pneumonia which is quite fatal among children of tender age.

Aside from considering the importance of keeping these children under observation because of the sick and death rate among them, it becomes a matter of probably equal significance from a standpoint of economy to look after their physical condition before commencing their school studies. By so doing, a considerable portion of the work attending the correction of defects among the children of school age could be spared, much to the advantage of the school officials and to the health of the children themselves.

Wherever careful physical examinations have been made of the first year pupils in schools, one child out of every three has been found to have some physical defect requiring the attention of a physician. In some instances defects had already impaired the health or the development and its ability to keep up with the normal child. If such defects were discovered before the school age and

were corrected before any permanent injury took place, then we would be assured of children who were physically prepared to endure the changes of school life, and the large number of "repeaters" in the various grades and of delinquencies would be greatly reduced.

In large families, when the new baby arrives, the child which has just passed its infant life is no longer the idol of the family and the usual care and attention is often shifted to the new arrival. Although it is true that most deaths among babies occur before the first birthday, it is important that the same precautions to preserve and promote the health of the infant, be exercised during the pre-school age. The problem of supervising the care of children between the ages of two and five by health departments is therefore a matter worthy of consideration.

Preparing the Children for School

WITH the approach of school days, parents become particularly anxious concerning the welfare of their children about to enter school and are very desirous that they should succeed in their studies and obtain a thorough education.

Mothers busy themselves about their children's clothing, books, slates and pencils, but these supplies constitute only a small portion of the equipment necessary for the success of the child at school. The child must be physically prepared to undergo the change of environment from the home to the classroom, where conditions are met with which reveal physical defects previously unrecognized.

A pupil in poor health will not be able to cope with his studies. Being thus handicapped he will not only fail to show progress, but may finally fall into the backward class. Children often become discouraged with school work because they are required to make up studies which they have missed while absent during the school term by reason of sickness. It therefore becomes the duty of parents to ascertain the state of health of their children and have their physical defects corrected before school begins. Start them out right with a clean bill of health and they will not likely go wrong during the whole school year. Do not wait until some one else discovers their defects, but take them to your family physician with a request for a complete physical examination. Slight defects often become greater ones after the child enters school, and faults that are not corrected during the school age ofttimes re-

main uncorrected during later life and may then result in deficiency and incompetency in the work which is essential for self-support.

One of the most important ailments among school children is defective vision. Medical inspection has revealed the fact that at least 25 per cent. of the pupils have eye troubles which furnish a fruitful source of retardation in learning and which in most instances are easily remedied. The adjustment of proper glasses will, in the majority of cases, permit these children to resume their places in the classroom with the normal child.

Good hearing is also a very important asset to the child, and especially so during the period of schooling. Defective hearing may often follow the infectious diseases which are common among children of school age and such a deficiency should be corrected as early as possible.

Mouth breathing indicates an abnormal condition of the nose and throat. Obstructive adenoids and tonsils predispose to infectious diseases and should therefore receive immediate attention. They also cause mental dulness.

The supervision and correction of the condition of the teeth of the child are of extreme importance. Arranging a proper diet for the school child is a problem in itself, but the time consumed

in studying such a problem is wasted if the child has defective teeth.

At the beginning of the school year the medical inspectors in all the large cities make a thorough examination of all public school children. Those who have physical defects are recommended to their family physician for treatment, while those who cannot afford to pay for medical attention are referred to hospital dispensaries or to the free dental and eye dispensaries.

The Care of School Children

CHILDREN should not be permitted to go to school without an adequate breakfast. A large percentage of them are often sent to school without a morning meal. It is impossible for them to be good scholars if they are not properly fed, nor can they have sufficient physical vigor to resist disease unless they are given sufficient and selected foods given at regular meal hours.

The short period immediately after school hours should be spent outdoors in play. They should never be allowed to play in the streets because of the danger of vehicles. Playgrounds are generally established for this purpose. Chil-

dren should be indoors after dark except during the warm and mild weather. The school lessons may be prepared before or just after the evening meal.

The *eyes* of the school child need special attention. If the eyes are inflamed, red or watery or are crossed, they need the attention of an oculist. In many cities the Board of Education provides medical inspectors to look after the welfare of the children. If parents should receive a note from the school doctor about the child's eyes or about any other condition of the body, it is essential that this matter be attended to at once. (See page 253).

The *ears* should be cleaned out at each face washing with the end of the wash rag. Running ears are diseased ears and call for immediate attention. Do not expect them to stop running as the child grows older. Deafness of a serious nature may result from neglect. Children should not place shoe buttons, cotton, match sticks, beans and other foreign bodies in ears.

Children suffering from *running nose or defective breathing,* should have a careful examination of the nose and throat for obstructions.

The mouth should be rinsed thoroughly each morning with water. (See page 258).

Head lice are not uncommon among school children and their presence is indicative of lack of cleanliness. The head should be washed with hot water and soap at least once a week. Cleanliness keeps away all body lice. The best time to wash the head is before bedtime. The hair should be thoroughly combed and dried before retiring. If head lice should be found, they are best destroyed by clipping the hair in the case of boys and washing the scalp thoroughly and applying to the scalp tincture of larkspur or vinegar. In the case of girls the treatment is more prolonged. The head should be thoroughly washed and then hot vinegar applied. The hair is wrapped in a towel overnight and the next morning thoroughly combed with a fine tooth comb to remove the eggs of the lice.

Skin rashes should always be taken care of by the family physician.

Every school child should *bathe twice weekly.* Cleanliness of the skin is essential in order that it may be healthy, free from dirt and be enabled to properly perform its function. Bathing is best at bedtime. The water should be warm, followed by a cold water sponge.

The *hands should always be washed before eating.* Dirty hands carry disease germs to the mouth and infect the entire body. Every

school child should have a clean face, neck, ears, hands, and hair combed on entering school both for the morning and afternoon period.

Children should be protected from *exposure to wet* by proper shoes and overshoes and outer garments. A child who is required to remain in the classroom with wet stockings and shoes may become chilled and later become ill. The wet shoes and stockings should be changed immediately when reaching home.

The *child's clothing* should be of light weight and warm. Especially for winter the garments should be wool and cotton mixed. Pure wool shrinks. Plain cotton does not absorb the sweat as readily as wool and may chill the body. Plain cotton is more advisable for summer in that it tends to keep the body cool.

The outer garments should vary according to the outside temperature and the clemency of the weather.

A sweater underneath a coat gives comfort and warmth. Warm underclothing, a sweater and coat, cotton wool pants, medium weight stockings and a suitable cap are sufficient for most boys.

Girls can wear washable dresses of different weights throughout the year, if suitable underwear is worn.

Mufflers and scarfs worn outdoors should always be removed indoors.

The *shoes* worn by children should be given careful attention and selection. Tight shoes should not be used nor should badly shaped shoes with worn heels and soles. Corns, bunions, flat feet, and other foot disorders in adults may be traced to illfitting shoes during school life. Children should learn to keep the shoes firmly laced and always polished.

Diet for the School Child*

GOOD FOOD HABITS

THE child is the adult of tomorrow. The kind of food a child has today determines to a considerable extent the fitness of the future citizen. Those who direct the feeding of the child have a responsibility which can not be overlooked. Good food habits should start today. Tomorrow may be too late.

1. *Meals should be given at regular times.*— There should be regularly appointed hours for eating. Do not allow children to eat except at

* Courtesy of Bureau of Education, Department of the Interior, and Child Health Organization of America.

these hours unless ordered by a physician. If the child gets very hungry two or three hours before time for the next meal, give him a slice of bread and butter. Do not give a child candy, fruit, nuts, cake, and cookies between meals.

2. *Plenty of water should be given.*—Children as well as adults should drink plenty of water between meals. Water will often satisfy the craving which many mistake for hunger. Food should not be washed down with water during meals.

3. *Children often have to be taught to like things which are good for them.*—Be patient, but firm, in teaching a child to like new foods. Begin by giving a small amount of new food; give but one new food at a time, and repeat it regularly until the child learns to like it.

4. *Children should not be forced to eat when not hungry.*—Forced feeding causes more harm than light eating for a few days. If the appetite does not return, consult a physician.

5. *They should be happy while eating.*—Let the mealtime be a joyous occasion, without undue excitement just before, during, or after eating.

6. *Plenty of time should be allowed for meals.*—Insist on thorough chewing so that the stomach may not be overtaxed.

7. *Dirt is dangerous.*—Children should have clean hands and faces while eating; they should sit down to a clean table and eat in an orderly manner. Flies should not be allowed to alight on the food either before or during meal time.

THE CHILD'S FOOD

A child should not be allowed to make his entire meal from one or two articles; he needs a variety of foods to supply all kinds of growing material. He can not develop normally unless he has this variety. Every day the diet of the child should contain some of each of the following types of foods:

1. *Milk,* which is the best and most important food for growing children. No other food can take its place. Children over 5 years of age should have at least three cups a day, and more where possible. Milk should not be given very cold. Warm milk is more easily digested. Oftentimes milk can be taken warm when it causes distress if taken cold. If children rebel against drinking milk alone, it may be given in the form of cocoa, milk soups, custards, etc. Where it is impossible to get fresh milk, dried milk or evaporated milk may be used. If dried skimmed milk is given, give the child plenty of vegetables and, if possible, some cream or butter. ***Tea and***

coffee should not be given to growing children at all.

2. *Eggs, fish, fowl, or meat, or their equivalents.*—Where plenty of milk and an egg a day are included in the diet of the child, very little meat need be given before the seventh year. Allow not more than 2 ounces of meat daily for a child from 7 to 10 years; 3 ounces daily from 10 to 14 years. The broth from stews may be given on vegetables and bread. Where meat and eggs can not be purchased because of cost and scarcity, the diet should contain a quart of milk, with pea or bean soups, spinach and other green vegetables, oatmeal, and dried fruits. Vegetables and fruits are also excellent sources of iron and other elements necessary for growth, and, combined with milk, will supply food value more than equal to meat.

3. *Bread, cereals, and other grain products.*—These should furnish at least one-third of the food required by the child. The most nourishing ones should be included in the diet; cereals and flours with some of the outside of the grain are more nourishing than the refined flours. Hence, entire wheat flour and brown rice are better than white flour and white rice. They also help to prevent constipation. The following list gives the cereals and flours in the order of the amount

of nourishment which they contain, and their rating, based upon the proportion of the chief elements in the food which are necessary for growth:

	Food Units.
Oatmeal	2,500
Force	2,300
Shredded wheat	2,200
Graham flour	2,200
Barley	1,450
Rye flour	1,450
Cornmeal	1,350
Macaroni	1,350
Cream of wheat	1,350
Farina	1,350
White wheat flour	1,250
Hominy	1,150
Rice (white)	1,150
Corn flakes	1,100

To reduce this to a cost basis, divide the rating given above by the cost per pound and compare the food value with the money spent. Oatmeal at 8 cents a pound gives 310 food units for every cent spent. Hominy at 7 cents a pound gives 164 food units for every cent spent. Then, oatmeal is much more economical than hominy. For older children (over 10 years) cereals and breads may be varied and the food value increased by the addition of dried fruits.

Dates at 25 cents a pound are cheaper than fresh apples at 5 cents a pound and make a valuable addition to cooked cereal. (To prepare dates,

wash, chop in small pieces, and stir into any cereal.) Stewed prunes may be used in the same way. They are especially good with hominy and other white cereals. Mixed cereals offer a great variety of flavors. Two or three kinds may be cooked together.

Cereals should be thoroughly cooked. If children do not like them, it is usually because they have not been properly cooked and served. They need long, slow cooking over boiling water or in a fireless cooker. The cereal may be cooked the night before, and reheated in the morning in a double boiler, or by setting the dish in a pan of hot water.

Directions for cooking cereals: Stir the cereal into the right amount of boiling salted water, and cook over direct heat until the cereal thickens, stirring constantly. Then set into boiling water or the fireless cooker and cook as long as directed without further stirring; proportions are as follows:

1 cup of cornmeal, 6 cups water, 1 to 2 teaspoonfuls salt; cook 3 hours.

1 cup wheat preparations, 4 to 6 cups water, 1 to 2 teaspoonfuls salt; cook 1 hour.

1 cup hominy, 4 cups water, 1 teaspoonful salt; cook 3 hours.

1 cup rolled oats, 2 to 2½ cups water, one-half teaspoonful salt; cook 2 to 3 hours.

Uncooked or "dry" cereals may be given occasionally, if cost can be disregarded, and with milk and fruit make an agreeable supper dish. It should be remembered that it takes two or three times as much of these dry cereals by volume to supply the same amount of food as of cooked cereal.

Cereals should be served with milk and not more than one teaspoonful of sugar to a saucerful of cereal. For those who take them well without sugar it may be omitted altogether.

Flours and cereals may be made into bread, puddings, soups, cookies, etc.

4. *Vegetables* form a very essential part of the diet. They are especially necessary if milk is lacking. There is little danger of eating too much of the right kind of vegetables in a well-balanced diet. They are very important in helping to guard against constipation. Oftentimes hunger is due to the absence of vegetables in the meals, and children who crave more food find their appetite satisfied where vegetables are given regularly. They give volume or bulk to the food. Potatoes, baked, boiled, or mashed, should be given practically every day. They are economical even at 5 cents a pound. Other valuable vegetables are dried and fresh peas and beans, spinach, onions, string beans, squash, cauliflower,

asparagus, carrots, stewed celery, and for older children parsnips, oyster plant, and turnips; and in summer all kinds of "pot greens" such as beet tops, turnip tops, dandelions, chard, and cooked lettuce.

Dried and canned vegetables if of good quality may also be given in winter. Almost all vegetables except cabbage, cucumbers, and corn may be used freely after the fifth year; corn should not be given before the twelfth year. In soups and stews more vegetables and less meat should be used than is common practice. Meat should be used chiefly for flavoring.

Much valuable food material dissolves in the water in which vegetables are cooked. This decreases their value as food. So far as possible this water should be used in the making of meat gravies and soups. Vegetables should be cooked only long enough to become tender.

5. *Fruit.*—There should be some fruit in the diet every day. Where fresh fruit is not possible, use dried fruit. Fresh fruit should be given only in season; it should be very ripe, but not decomposed. Bananas are not ripe until the skins have brown spots. If served before this stage, they should be baked or boiled. They should not be given raw before the tenth year. Jams and preserves should be avoided.

6. *Sweets.*—There is great danger of children getting too much sugar and spoiling the appetite and the digestion. Children should not have, all told, more than the following amounts:

5 to 7 years.....1 tablespoonful daily.
7 to 12 years.....2 tablespoonfuls daily.

Sugar is less likely to be harmful when taken in cocoa, rice, or other simple puddings, custards, or in dried fruits, fresh fruits, and vegetables. Molasses has a higher food value than sugar. Its larger use should be encouraged. Whatever sweets are given should be at the end of a meal; never between meals or at the beginning of a meal. They spoil the appetite for other necessary food.

7. *Fat* is essential for growing children. Milk fat (cream and butter) is the most important kind. Children should, if possible, have unskimmed milk. If the cream is removed from their milk, they should have plenty of butter. If they have unskimmed milk, butter substitutes such as nut butter or oleomargarine may be used. Vegetable oils may be given to increase the energy of growing children; corn, olive, cottonseed, and peanut oils are all good. Fat is more easily digested uncooked. Children should not have cooked fat except bacon. All fried foods should be avoided.

PLANNING THE MEALS

The meals of a school child should be planned to give enough variety and provide all the growing material needed. The following suggestions will help to provide well-balanced meals for school children.

I. BREAKFAST should contain milk, bread and butter, and when possible, in addition, cereal, fruit, or egg.

Milk.—Part may be eaten on a cereal, the rest drunk plain or with cocoa.

Bread should be stale or toasted (whole wheat, oatmeal, corn meal, rye, barley, or white bread or any other simple bread).

Butter may be oleomargarine, nut margarine, or some other butter substitute provided the cream has not been removed from the milk which the children use. If the cream has been removed either for food or drink, butter and nut butter substitutes must be given freely.

Cereal.—The best are oatmeal, wheatena, pettijohn, corn meal, samp, hominy, rice, farina, cream of wheat.

Fruit may be orange, stewed or fresh apple, ripe pear or peach, thoroughly ripe or cooked banana, stewed dried fruit, such as dates, figs, prunes, apples, or peaches.

The fresh fruits in season are to be preferred where it is possible to obtain them; they are usually expensive, however, and one often gets much better return for the money in dried fruit. All fruits except orange should be cooked for children under 7 years old.

Eggs may be given soft boiled, poached, scrambled (plain or in milk) and omelet. Fried eggs should not be given.

II. DINNER, or the heaviest meal, should preferably be in the middle of the day. This is not feasible when the child must hurry home from school, eat rapidly and rush back; nor when the child must carry his lunch to school; nor when the mother can prepare but one dinner a day and the father must have his at night. For a light midday meal, give a vegetable soup, bread and butter, a simple dessert or the meals hereafter indicated for supper.

An *ideal* dinner *should* consist of soup, meat or eggs, vegetables, bread and butter and dessert.

Clear meat *soups* or broths have very little nourishment. Soups for children should be made from dried peas or beans, or with fresh vegetables, such as potato, spinach, carrots, peas and onions; such soups with the addition of rice or barley and a small amount of milk make a very nourishing dish.

Meat should be given but once a day, and the quantity should not be large. Lean beef, mutton, lamb, chicken, and such fish as cod, haddock, and halibut, but not salt or dried fish. As a rule cold meat should be avoided by young children because it is rarely chewed properly.

Vegetables should form a large part of the diet, especially in summer. A list of those available has already been given.

Bread and butter should always be given.

Dessert.—With plenty of bread and butter and vegetables, dessert is not essential. When given it should always be plain and simple. The most wholesome desserts are cereal puddings with fruit, such as rice, oatmeal, baked Indian or bread pudding or plain cookies, or cake and cocoa or fruit custards, junkets, ice cream or ices, stewed dry or fresh fruit, sliced orange or sweet chocolate.

Suggested dinner combinations are given in later pages.

III. SUPPER.—The supper, when the hearty meal is given at midday, should be a simpler meal. Give dishes made of milk, eggs, strained vegetables, cereals, and fruit, rather than meat, whole vegetables, and sweet desserts.

Some suggestions for supper are as follows:

Bread and milk, baked potato, stewed fruit.

Cereal and milk, bread and butter, baked banana.

Poached egg on toast, baked potato, bread and butter, apple sauce, and gingerbread.

IV. BASKET OR SCHOOL LUNCHEON.—The child needs at least three good meals a day. If he has to carry a luncheon to school, it should be a substantial one, which will give him nourishment enough to keep him from getting exhausted during the afternoon. The hot midday meal is to be preferred; but it is better to carry a well-balanced luncheon than to hurry home, bolt half the dinner for fear of being late, and get exhausted before the end of the day. It is desirable to have hot soup or cocoa at school; it is then easy to supplement this. If, however, he must carry the whole luncheon, it must be a nutritious as well as an appetizing one.

Suggestions for a basket luncheon: The most feasible are sandwiches, dessert, fruit, and a bottle of milk.

For sandwiches use the most nourishing kinds of bread, such as whole wheat, oatmeal, brown, raisin, or nut bread. Appetizing fillings may be egg, chopped meat, fresh cottage cheese plain or combined with dried fruit, sliced tomatoes, chopped vegetables such as beets or lettuce and jelly, or peanut butter and chopped raisins or dates.

Where possible, a baked custard adds variety.

If fruit is not included in the filling, a small glass jar of some stewed fruit or apple sauce may be added, or some fresh ripe fruit, or a few dates.

For dessert plain cookies, ginger cookies, or these with cheese, date cookies, sponge cake, gingerbread, or sweet chocolate. It is easy to get a small jar with a tight screw top for sauce, puddings, and custards and to get a bottle for carrying milk.

SAMPLE *SUMMER* DIET FOR A WEEK FOR CHILDREN 7 TO 12 YEARS.

BREAKFAST.	DINNER.	SUPPER.
Oatmeal, ½ to ¾ cup, with milk. Stewed fruit, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices. Milk to drink, 1 glass.	Lamb stew, with vegetables, small portion. Squash or string beans, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices. Bread pudding, 2 tablespoonfuls.	Potato soup, with milk, 1 cup. Poached egg on toast. Brown bread and butter, 2 to 3 slices. Stewed prunes, 4 to 5. Milk to drink, 1 glass.
Force or corn flakes, 1 cup, with milk. Egg. Brown bread and butter, 2 to 3 slices. Milk to drink, 1 glass.	Chicken with rice, small portion. Mashed potato, 2 to 3 tablespoonfuls. Dandelion greens, or boiled onions, 2 to 3 tablespoonfuls. Stewed fruit, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices.	Spinach soup with milk, 1 cup. Corn bread and sirup, 2 to 3 pieces. Cottage cheese, 1 level tablespoonful. Ginger cookies, 1.
Hominy, ½ to ¾ cup, with milk. Toast and butter, 2 to 3 slices. Baked banana, 1. Milk to drink, 1 glass.	Bacon, 1 slice. Poached egg and spinach. Spaghetti with tomatoes, 2 to 3 tablespoonfuls. Green peas or string beans, 2 to 3 tablespoonfuls. Bread and butter, 1 to 2 slices.	Corn flakes, 1 to 2 cups, with milk. Puree of lima beans, ⅔ cup. Ginger cookies, 1 to 2. Milk to drink, 1 glass.
Corn meal, ½ to ¾ cup, with sirup. Scrambled egg, 1. Bread and butter, 2 to 3 slices. Milk to drink, 1 glass.	Rice pudding, 1 to 2 tablespoonfuls. Hamburg steak, 1 small ball. Stewed potatoes, 2 to 3 tablespoonfuls. New beets and beet-top greens, 2 to 3 tablespoons. Stewed fruit, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices.	Milk toast or rice, ½ cup, with milk. Baked potato, 1. Bread and butter, 2 to 3 slices. Milk to drink, 1 glass.
Shredded wheat, 1, with milk. Corn bread and butter, 2 pieces. Apple sauce or stewed pears, 2 to 3 tablespoonfuls. Milk to drink, 1 glass.	Fish or clam chowder, ¾ cup, or egg. New beets or spinach, 2 to 3 tablespoonfuls. Boiled potato. Bread and butter, 2 to 3 slices. Custard or junket, ½ cup.	Oatmeal soup, 1 cup. Squash, chard, or carrots, 2 to 3 tablespoonfuls. Stewed fruit, 2 to 4 tablespoonfuls. Bread and butter, 2 slices. Milk to drink, 1 glass. Plain cookies, 1.

BREAKFAST.	DINNER.	SUPPER.
Force or corn flakes, 1 to 2 cups, with milk. Poached egg on toast. Brown bread and butter, 2 to 3 slices. Milk to drink, 1 glass.	Lamb hash or veal cutlet, small portion. String beans, 2 tablespoonfuls. Baked potato. Bread and butter, 2 to 3 slices. Apple sauce, 2 to 4 tablespoonfuls.	Rice and milk, ¾ cup. Corn bread and butter, 2 slices. Ginger cookies, 1 to 2. Milk to drink, 1 glass.
Rice, ½ cup, with milk. Bread and butter, 2 to 3 slices. Stewed fruit, 2 to 3 tablespoonfuls. Milk to drink, 1 glass.	Dried pea or bean soup, 1 cup. Baked potato. Bread and butter, 2 to 3 slices. Lima beans or new beets, 2 tablespoonfuls. Ice cream or fruit sherbet, 2 tablespoonfuls.	Baked potato, 1. Poached egg on toast, 1. Stewed prunes, 4 to 5. Plain cookies, 1 to 2. Milk, 1 glass.

For the younger children use more milk and less meat.

SAMPLE *WINTER* DIET FOR A WEEK FOR CHILDREN 7 TO 12 YEARS.

BREAKFAST.	DINNER.	SUPPER.
Oatmeal, ⅔ cup, with milk. Bread and butter, 2 to 3 slices. Baked apple, 1. Milk to drink, 1 glass.	Roast lamb, small slice; baked potatoes. Beets, onions, or oyster plant, 2 to 3 tablespoonfuls. Rice pudding, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices.	Scrambled egg, 1. Bread and butter, 2 to 3 slices. Oatmeal cookies, 1 to 2. Milk to drink, 1 glass.
Hominy, ⅔ cup, with milk. Bread and butter, 2 to 3 slices. Bacon, 1 slice. Cocoa with milk, 1 cup.	Vegetable soup, with carrots, beans, onions, 1 cup. Spinach with poached egg,[1] 2 to 3 tablespoonfuls. Corn bread and butter, 2 to 3 slices. Dates, 4 to 5.	Baked potato, 1. Bread and butter, 2 to 3 slices. Stewed apricots, 2 to 3 tablespoonfuls. Cottage cheese,[1] 1 tablespoonful.

SAMPLE *WINTER* DIET FOR A WEEK FOR CHILDREN 7 TO 12 YEARS—*Continued.*

BREAKFAST.	DINNER.	SUPPER.
Corn meal, ½ to ⅔ cup, with milk. Toast and butter, 2 to 3 slices. Apple sauce, 2 to 4 tablespoonfuls. Milk to drink, 1 glass.	Rice and meat loaf, small portion. Stewed celery or cauliflower, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices. Baked Indian pudding, 2 tablespoonfuls.	Rice and milk, ½ cup. Baked banana, 1. Fruit cookies, 1 to 2. Bread and butter, 3 to 4 slices.
Oatmeal, ⅔ cup, with milk. Bread and butter, 2 to 3 slices. Stewed prunes or figs, 3 to 4. Cocoa with milk, 1 glass.	Beef stew with vegetables, small portion. Bread and butter, 3 to 4 slices. Rice pudding or custard, 2 to 3 tablespoonfuls.	Corn bread and sirup, 2 to 3 pieces. Soft egg. Bread, 2 to 3 slices, and peanut butter, ½ tablespoonful. Cocoa with milk, 1 glass.
Force or corn flakes, 1 to 2 cups, and milk. Bread and butter, 2 to 3 slices. Soft egg and bacon, 1. Milk to drink, 1 glass.	Chicken, small slice; potato soup with milk, 2 to 3 cups. Creamed carrots or onions, 2 to 3 tablespoonfuls. Ginger bread and thin cream, 1 small piece. Bread and butter, 2 to 3 slices.	Milk toast, 2 to 3 slices. Cottage cheese, 1 tablespoonful. Stewed prunes, 4 to 5. Cookies; milk to drink, 1 glass.
Pettijohn or malt breakfast food, ⅔ cup, with milk. Bread and butter, 2 to 3 slices. Soft egg; milk to drink, 1 glass.	Creamed or fresh broiled fish, small portion. Baked sweet potato, 1. Bread and butter, 2 to 3 tablespoonfuls. Baked apple, 1.	Spinach or bean soup, 1 cup. Baked potato, 1. Corn bread and butter, 2 pieces. Milk to drink, 1 glass.
Corn meal, ⅔ cup, and milk. Toast and butter, 2 to 3 slices. Stewed dried peaches, 2 to 3 tablespoonfuls. Cocoa with milk, 1 cup.	Lamb stew with vegetables, small portion. Boiled potato, 1. Bread or rice pudding, 2 to 3 tablespoonfuls. Bread and butter, 2 to 3 slices.	Celery soup with milk, 1 cup. Bread and butter, 2 to 3 slices. Custard or junket, ½ cup. Ginger cookies, 1 to 2; milk to drink, 1 glass.

[1] Toward spring, when eggs are abundant, they may be given more frequently, replacing some meat and milk. Cottage cheese should be made at home or the best grade purchased and used only when fresh.

Trivial Complaints Among Children

CHILDREN usually react promptly to the invasion of infectious disease. The early symptoms of restlessness, irritability, loss of appetite and disinclination to play should be the warning signs that the child is not feeling well. Parents will too often look at trivial signs with indifference, with the belief that the usual home remedies may clear up the prevailing symptoms. On the contrary, every case of sore throat, running nose, digestive disorder, or rise of temperature among children should be looked upon as suspicious of one of the infectious diseases. If the sick child is of school age, he should be retained at home and not allowed to mingle with other children.

It is during the first few days of illness that infection is carried from one child to another in the school room. The slightest ailments among children should therefore be considered as indications of a more serious condition until proved otherwise. The school medical inspectors of the Health Department in large cities make a routine examination of the children and send home those who are suffering from symptoms suspicious of infectious disease.

Parents, however, can be of valuable assistance to the health authorities by sending for the family physician at the onset of trivial complaints, when early treatment may abort a more serious disease and when prompt isolation at home will prevent the spread of infection to others.

More especially is it important to give adequate attention to trivial complaints among children in the Spring and Fall when diphtheria, whooping cough, scarlet fever and respiratory diseases are quite prevalent. All of these diseases are preceded or ushered in either by sore throat, cold in the head, cough, or by digestive disturbances. No time should therefore be lost in placing the child under medical care. Home remedies may prove valuable in preparation of the child for further treatment but should not be relied upon if symptoms fail to abate and are getting worse.

One of the most difficult problems with which the health departments are confronted, is the control of whooping cough. Although most health departments place such cases under quarantine and placard the home, parents will sometimes allow convalescing children to leave the home, to attend moving picture shows and to ride in the street cars. While this disease is not very infectious during convalescence, still the free

mingling of such children with the healthy ones is a serious menace to public health. It would be impracticable for the health authorities to keep constant watch on these cases and, therefore, co-operation of the public must be relied upon to enforce the quarantine law. Many families fail to have medical attention for children affected with this disease because it is erroneously believed to be a trivial affection. Statistics, however, show over 6,000 children die in the United States annually from this cause. Trivial complaints therefore become serious ones when neglect and indifference are allowed to take precedence.

Defective Vision Among School Children

CORRECT vision is most essential for the progress of the child during the school period, and yet statistics show that at least one-fourth of the school children have defective vision or eye strain of such gravity as to require the attention of an oculist. Among the various physical defects which the school medical inspector meets, defective vision is one of the most frequent and most serious, and in many instances

this can be readily corrected by the adjustment of glasses.

The most frequent cause of eye strain is farsightedness, but a large number of school children are affected with nearsightedness. Cross-eye is not infrequent, and the parents of children who are affected with such a condition should not consider it lightly or believe that this defect will right itself as the child grows older. It is unreasonable to expect children who cannot see the blackboard or read their books to keep up with their studies as the normal child does.

It is known that only a few children with eye troubles continue their schooling after the age of fourteen. The large number of delinquencies caused by eye defects indicate the need of examination of the vision of children during the early school period, in the kindergarten and first grade, when a correction of these defects will eliminate difficulties later.

The education of each school child costs approximately $50 per year, and since each child remains at school until fourteen years of age, the total cost for the entire school period amounts to $400. If by reason of defective vision the child at fourteen years of age should only reach the fourth grade instead of the eighth, then the State or city has expended $400 and only received $200

worth in value; but the loss to the child is still greater because at this age he seeks employment and the defect which has hindered him in his school work will also be a handicap in his efforts to support himself. The insufficient education which he received will further hamper his progress as a citizen.

To prevent this loss to the State and to the child, a pair of properly adjusted glasses will, in most cases, cause the delinquent child to catch up rapidly in his school studies and assume the same position with the normal child. For this purpose many health departments maintain free eye clinics for the children of parents unable to pay for medical services.

Conservation of Vision

PREVENTIVE medicine has opened the way to endless fields of investigation which have as their basis the prevention of disease and the promotion of the public health. It is only of recent date that attention has been paid to the all important subject of conserving the eyesight. Routine inspection by the health authorities has done much toward the conservation of vision among children of school age, but after leaving

school such supervision reverts to the individual when there is a tendency to overlook defects which do not entirely incapacitate one for work.

Employers, however, have recognized the importance of rendering the surroundings of the office and workshop free from those factors which may be detrimental to the eyesight. Modern structures with abundant window space are evidences of the recognition of the usefulness of daylight and its preference to artificial means of illumination from the standpoint of the health of the eyes.

The frequency with which persons complain of eye strain is indicative of the fact that faulty illumination may play an important part in serious defects of vision. The increasing population of indoor workers has therefore made the problem of lighting offices and workshops a very important one. While health officials are not generally in a position to express an expert opinion as to the details of lighting systems, a few hints from the standpoint of the health of the workers may serve as a guide to lighting engineers.

Daylight is the best lighting system.

Window space should be one square foot to every five square feet of floor space.

The desk or work should be so placed that the light falls over the left shoulder of the worker.

Artificial illumination should approach the diffused daylight. The intensity should vary with the kind of work and its distance from the object to be illuminated.

Direct illumination should be preferred for near work where precise vision is required. Such lights however should be constant and without glare and should be so arranged as not to reflect rays of light into the eyes of the worker.

Persons working in foundries and places where the light is intense from molten metals should guard the eyes by properly prescribed colored lenses.

The color of the room has also an important bearing upon illumination. The walls should be of a light color preferably pale green or buff. Surfaces, however, should not be glazed to avoid uncomfortable reflections.

Persons engaged in doing such work as sewing, painting, drawing and engraving should take advantage of the daylight.

More detail attention to lighting systems in offices and workshops would materially lessen the number of cases of defective vision and assist in preserving the most valuable of special senses.

Good Teeth Essential to Good Health

THE mouth is not only the gateway of the alimentary tract but the portal of entrance for many diseases. The teeth are the sentinels on watch which prepare the food for further digestion. Decayed teeth cannot perform their proper function but act as hiding places and incubators for disease germs which multiply rapidly and distribute their poisonous products through the body. The natural shape and position of the teeth form crevices or pockets which favor the retention of small particles of food. These may remain in the mouth for a long time and finally become decomposed, imparting an unpleasant odor to the breath and favoring the production of acid products which bring about decay of the teeth.

The mouth is the hot-bed for many germs that are taken in accidentally with the food and by the fingers or eating utensils. Among the many diseases which may gain entrance through the mouth are tuberculosis, typhoid fever, pneumonia, diphtheria, epidemic sore throat and others. Hence it is necessary to keep the mouth in a hygienic condition from the cradle to the grave, and at the appearance of the baby's first

tooth, measures should be taken to care for the teeth.

Adults should have their teeth inspected at least twice a year by a dentist, in order that the defects may be detected early and corrected before any serious damage has been done. It should be remembered that one infected tooth is like a rotten apple in a barrel that is apt to involve the others. There is nothing more repugnant about one's personal appearance than the sight of ugly, dirty, decayed and foul smelling teeth. They reflect not only upon the personal cleanliness of the individual, but are the external evidences which indicate poor digestion and poor health.

The poisons absorbed from the pus laden gums act jointly with the acid producing germs of putrefaction in bringing about a condition of malnutrition. The food is not properly masticated and is often swallowed whole, placing the burden of digestion entirely upon the stomach. These factors all act in harmony in reducing the state of health and the resistance to disease. It is better for the aged to secure a set of false teeth than endure the injurious effects of a few decayed teeth which are not performing any valuable function.

The teeth should be brushed at least once daily with a firm bristle brush. More important

than the sideway motion of the brush is the up and down movement to reach all the crevices between the teeth.

The fact to be emphasized is that the preservation of the teeth is essential to the maintenance of good health.

Tonsils and Adenoids

ONE of the most frequent ailments of the school child, which gives the school medical inspectors much concern, is obstructed breathing, caused by diseased tonsils and adenoids. The growing child must receive an adequate allowance of fresh air to insure its proper development and any diseased condition of the nose and throat which may interfere with this supply is a hinderance to its good health. Yet there is a large number of school children who are so affected and are found to have enlarged tonsils and adenoids when examined by the school doctors. These abnormal conditions not only reduce the health of the children, but also handicap them in their educational progress.

Interference with normal respiration may ultimately result in such physical defects as stoop shoulders, flat chest and a dull facial expression

caused by mouth breathing. Nervous disorders such as headache, restlessness at night, habit spasms and depressed mental activity may, in many instances, be traced to obstructing growths in the upper air passages. Defective speech is also a common symptom. Enlarged tonsils and adenoids furnish suitable breeding places for disease germs and thus predispose to such infections as diphtheria, scarlet fever, influenza, meningitis, pneumonia and tuberculosis. Rheumatism and heart disease owe their origin in a great many instances to infection through the tonsils. They are also the gateway of infection with tuberculosis of the lungs, there being a direct communication between these organs. Tubercular glands and cold abscesses of the neck are quite often traced to diseased tonsils as their cause.

Earache in children is not infrequently the result of enlarged tonsils and adenoids. When inflamed, the pus which forms is drained into the throat and swallowed, giving rise to symptoms of poisoning of the whole body. Constant absorption of such poisonous products causes indigestion, poor nutrition and a lowered state of health.

Thus it is seen that many conditions may result from enlarged tonsils and adenoids and the sooner these diseased organs are removed,

the earlier will the child be relieved of a constant source of sickness and impaired health. Delay may lead to serious permanent defects, depriving the child of the opportunity to make its normal progress.

Parents of school children who are troubled with any obstruction or disease process of the nose and throat are notified of the fact by the school medical inspectors. Persons who receive such notices should give them their immediate attention and consult their family physician with the view of having them corrected. The hospital dispensaries are always ready to administer the necessary treatment or perform needed operations for the children of parents who cannot pay for the service of a private physician.

Conservation of Hearing

ONE of the most frequent complications of respiratory diseases is inflammation of the organ of hearing. While this condition may appear trivial at first, it may subsequently lead to very serious impairment of the hearing. This is especially true among children who are often troubled with sore ears following illness with the common childhood diseases. Many cases of de-

fective hearing or deafness in the adult may be traced to lack of care or inattention to ear troubles during the school age. The school medical inspectors are continually notifying parents of children who need attention to their ears. Failure on the part of parents to heed this notice makes them guilty of gross negligence since delay may mean a permanent loss of hearing to the child and seriously handicap its progress in school.

Good hearing ranks with good vision as an important asset to the growing child. We can all appreciate the disadvantages of defective hearing in adults who are barred from various occupations because of their physical defect. We are also aware of dangers to which they are exposed from moving vehicles and from failure to hear warning gongs and whistles. Knowing these various drawbacks parents should exert every effort to protect and safeguard the hearing of their children.

Enlarged tonsils, adenoids, sore throat, decayed teeth and the various febrile diseases of childhood are frequent causes of ear troubles. Children often place foreign bodies in the ears, such as peas, beans, shoe buttons, cotton and many other substances. These should be removed immediately lest they be the cause of further trouble.

Do not permit children to pick the ears with tooth picks, hairpins, pencils, matches or any other object because of the serious injury which may result. If the child is constantly picking at the ears, there is probably something wrong with them.

Running ears in children is always a serious condition as the health of the child is constantly undermined by the absorption of poison from the diseased organs. Parents should not expect this condition to get well of its own accord. On the contrary, ears which are discharging foul smelling pus may even be a source of danger to the life of the child since the diseased condition may spread and cause what is known as mastoid disease or brain abscess.

Parents are cautioned against "boxing" or pulling the ears of children as a form of punishment. The organ of hearing is very sensitive and resents even slight injuries.

Harm may also result from violent and forcible blowing of the nose as infectious material may reach the interior of the ear from this practice and bring about an inflammatory process. Always blow the nose gently, one nostril at a time.

Consult your family physician if the child complains of earache or if its hearing is impaired.

PART VII

First Aid to the Injured

THE primary thought in rendering first aid to the injured should be to apply such measures of treatment which will sustain the patient until the doctor arrives. The person applying first aid measures should keep in mind that he is not taking the place of the doctor but is merely acting as a temporary nurse, making the injured patient as comfortable as possible or applying such treatment that will prevent any further complication.

The only medicines which are actually needed in first aid are aromatic spirits of ammonia and tincture of iodine, the former taken internally in water while the latter, which is a poison, is applied only externally. All other medications should be left to the discretion of a physician.

Aromatic spirits of ammonia may be administered to adults who have fainted and to those who feel very weak from sickness or exhaustion, or following an injury. Never attempt to give

anything by mouth to a person who is unconscious.

Tincture of iodine may be used for cuts and bruises on the skin and for sprains. The purpose of using it on open cuts is to kill the germs which may have already entered the injured part and those which may exist naturally on the skin surrounding it. If the germs are not killed they may enter the blood or lymphatics through the cut surface and cause blood poisoning or infection with pus formation at the site of the wound. After such treatment, waiting sufficient time for the iodine solution to evaporate, the injured part is protected from outside dirt by covering with a sterilized bandage.

A sterilized bandage is a roll of gauze which has been subjected to a high temperature sufficient to kill all bacteria which may be upon it. No bandage is sterilized unless it is contained in a dust proof wrapper, most common of which is paper.

No attempt is made in this article to explain the first aid treatment of severe injuries except that such patients should be placed in a comfortable position until medical aid is secured. In the absence of such aid it is better not to touch the injured part except to place it in position of least pain and to protect it from outside dirt by a

freshly laundered sheet or towel. It is best to give all attention to the individual rather than to his injury by placing him flat on his back giving suitable support to the head.

Never try to wash wounds or to remove imbedded dirt. It is better to wait until it is done with the clean hands of the surgeon. Dirty hands carry disease germs and no hands are clean unless they are surgically clean, which means proper scrubbing and disinfection by chemical solution.

Ordinary bruises in which the skin is not cut may wait until the physician is consulted.

Sprains may be treated temporarily by bandaging tightly with a firm roller bandage. If one of the ankles is affected, the patient should be carried or conveyed to his home. Don't continue to treat a sprain yourself. Ofttimes it may be associated with a break of the bones.

Fractures which are commonly known as broken bones, should never be treated by other than a doctor. The first aid treatment consists merely of placing the part in a comfortable position with pillows, blankets or any wearing apparel beneath it and on either side to prevent it from excessive movement. The use of splints is forbidden even for first aid unless it is rendered by a nurse or person competent and quite familiar with their application.

Burns require special form of treatment. The only remedy advised for first aid is to apply white vaseline. Severe burns should not be touched except by a physician.

"Something in the eye" spoken of as a foreign body should never be removed by a layman, unless that foreign body is on the under surface of the lids where it may be removed with the corner of a clean handkerchief. Never use match sticks or tooth picks. Do not attempt to remove anything on the "sight" of the eye because you will cause more harm than good. Such foreign bodies should always be treated by an oculist. Small injuries to the eye may result in extensive loss of vision. Don't meddle with the eye.

Fainting and nose bleed are best treated by placing the patient on his back with the head low without a pillow or any support.

First aid to the drowning. (See page 100.)

Heat exhaustion and heat prostration. (See page 97.)

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